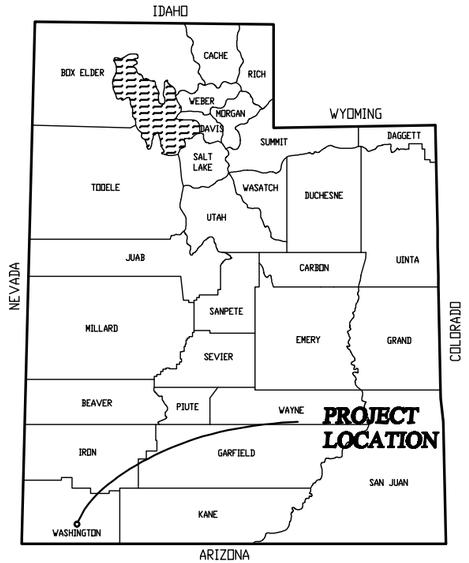
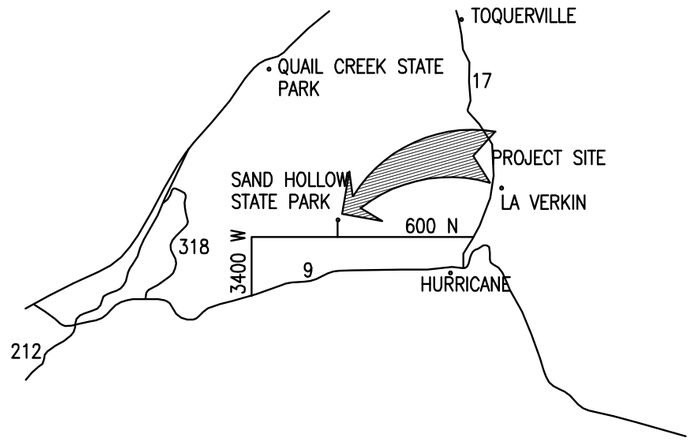
STATE OF UTAH
DIVISION OF FACILITIES AND CONSTRUCTION MANAGEMENT
DEPARTMENT OF NATURAL RESOURCES

SAND HOLLOW STATE PARK MAINTENANCE SHED
SAND HOLLOW STATE PARK
4405 WEST 3600 SOUTH
HURRICANE, UTAH
DFCM NO.: 07025510

VOL II OF II: CIVIL, STRUCTURAL, MECHANICAL, ELECTRICAL



LOCATION MAP



VICINITY MAP

LOCATION / VICINITY MAPS

NO SCALE

NORTH

THE GREAT SEAL OF THE STATE OF UTAH
INDUSTRY
1847
1896

RECOMMENDED FOR APPROVAL:

PROJECT ENGINEER — DATE

APPROVALS:

STATE OF UTAH
DIVISION OF FACILITIES CONSTRUCTION
AND MANAGEMENT — DATE

GENERAL NOTES:

1. FOR CONSULTANT STAMPS, SEE VOLUME I (– / A0.1.1)

ISSUE / REVISIONS:
- CD REVIEW 11/2/07
- DFCM REVIEW 11/30/07
- CDD 1/2/08

TITLE: VOL II COVER SHEET
DRAWN BY: JTD
PROJECT NO.: DFC 0713
DATE: 7/30/07

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET: A0.1.2

VOL II OF II SHEET INDEX (51)

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 1/2/08

LICENSED ARCHITECT
No. 93-130352 0301
JAMES T. DRESSLAR
STATE OF UTAH

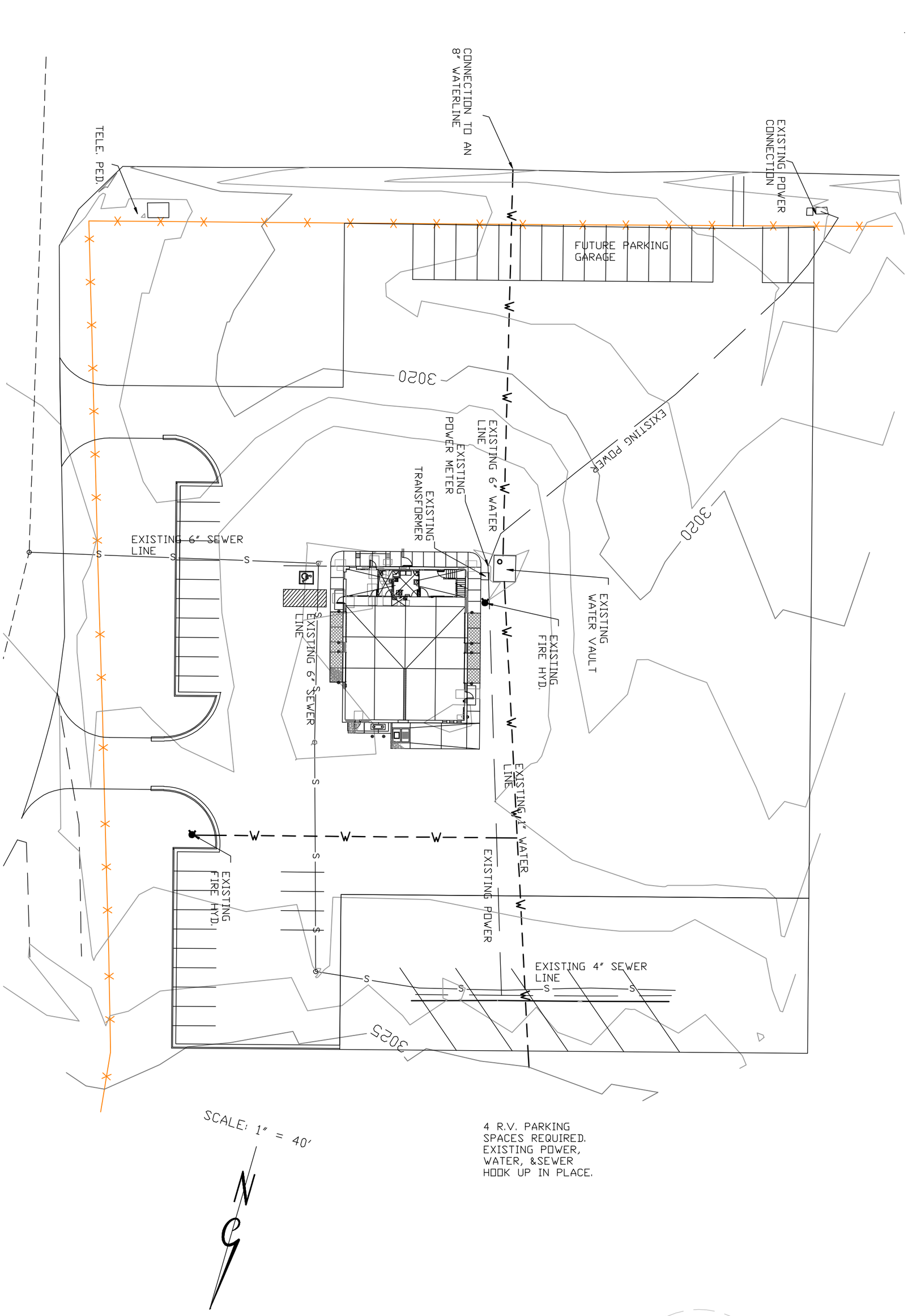
NOT VALID UNLESS SIGNED

TITLE: VOL II OF II SHEET INDEX
DRAWN BY: JTD
PROJECT NO.: DFC 0713
DATE: 7/30/07

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
NOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET:
A0.2.2



SHEET: C1

JAMES T. DRESSLAR ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

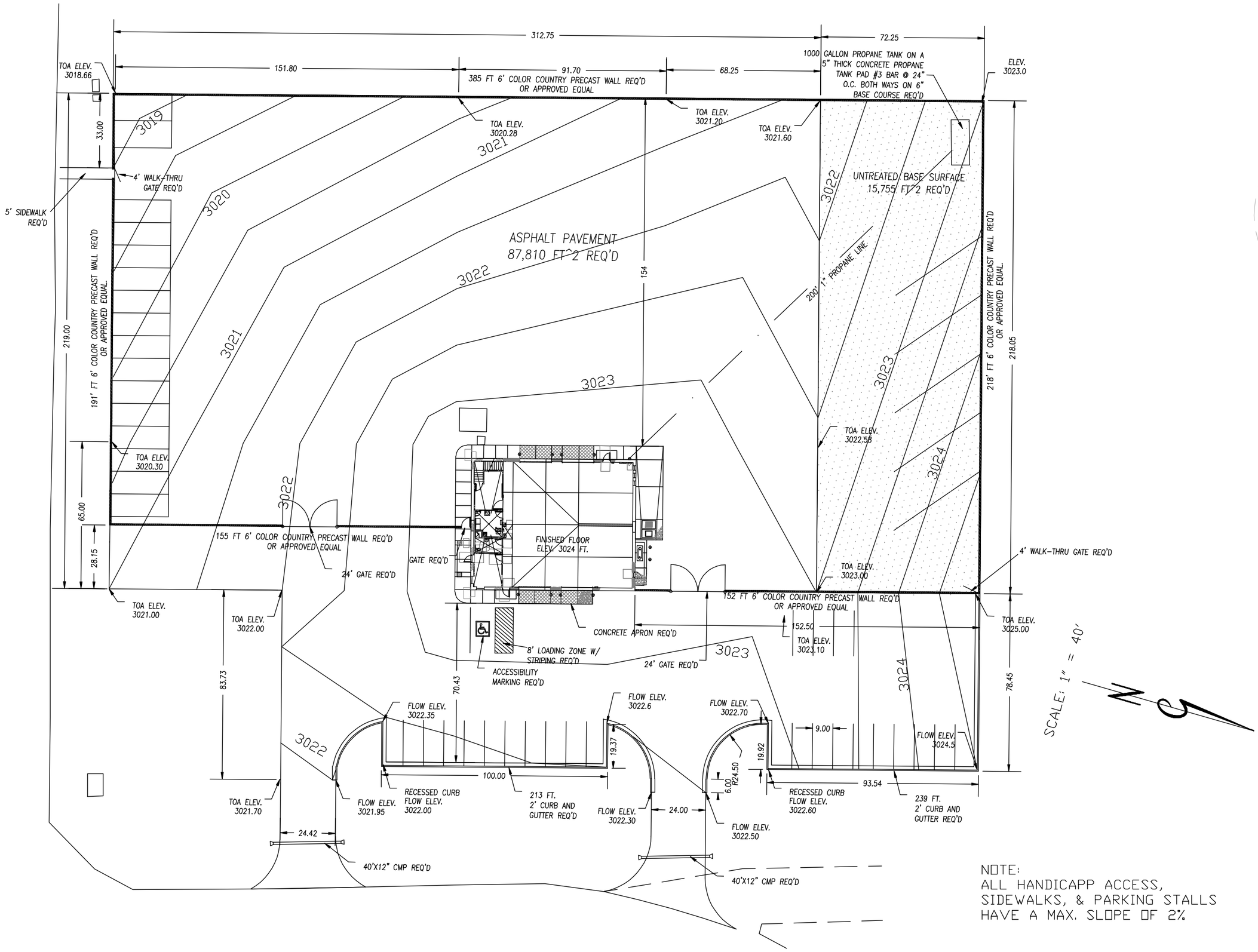
TITLE:
SITE PLAN AND UTITLITIES

DATE:

DRAWN BY:

PROJECT NO.: DFC 0713

ISSUE / REVISIONS:
DFCM REVIEW
11/30/07
CDD 1/2/08



NOTE:
ALL HANDICAPP ACCESS, SIDEWALKS, & PARKING STALLS HAVE A MAX. SLOPE OF 2%

ISSUE / REVISIONS:
DFCM REVIEW 11/30/07
CDD 1/2/08

TITLE: SITE GRADING AND DRAINAGE

DRAWN BY:

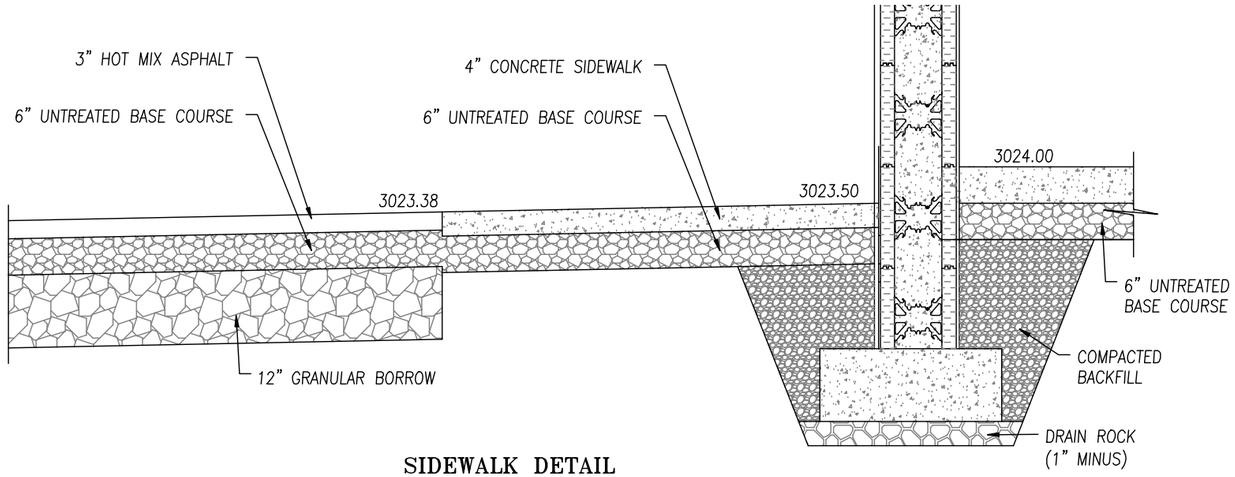
PROJECT NO.: DFC 0713

DATE:

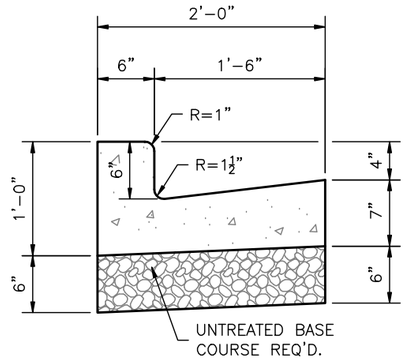
PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET: C2

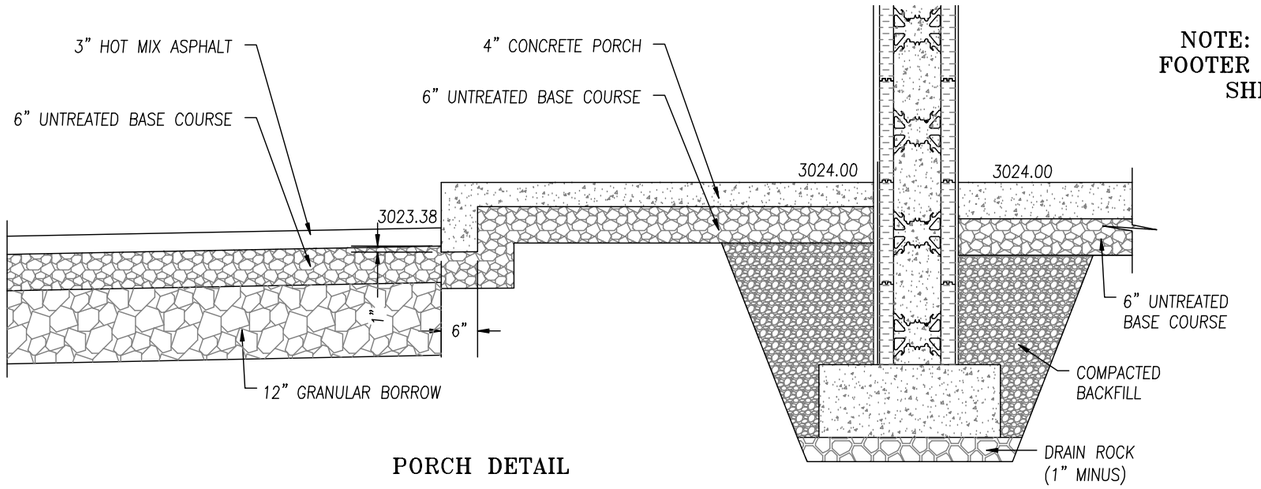


SIDEWALK DETAIL

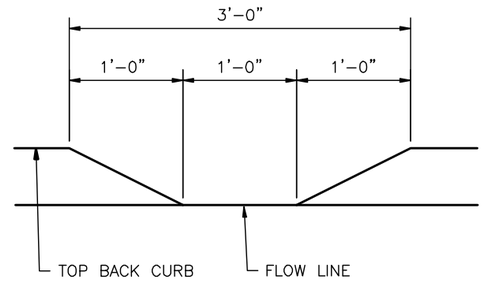


CURB and GUTTER DETAIL

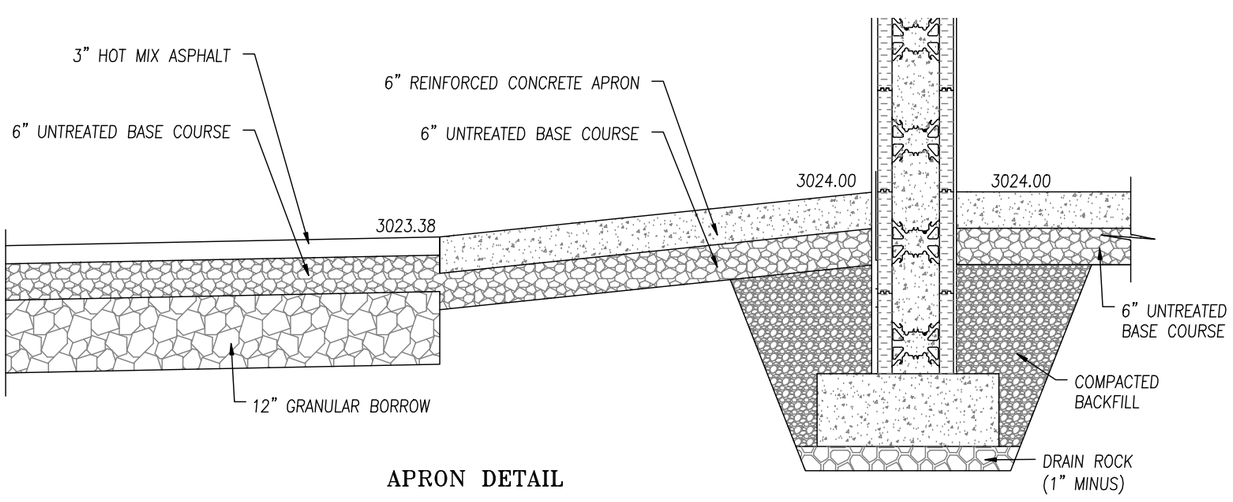
NOTE: FOR SOUTH FOOTER DETAILS, SEE SHEET C 6



PORCH DETAIL



RECESSED CURB DETAIL



APRON DETAIL

ISSUE / REVISIONS:
DFCM REVIEW 11/30/07
CDD 1/2/08

TITLE: **DETAIL SHEET**

DRAWN BY:

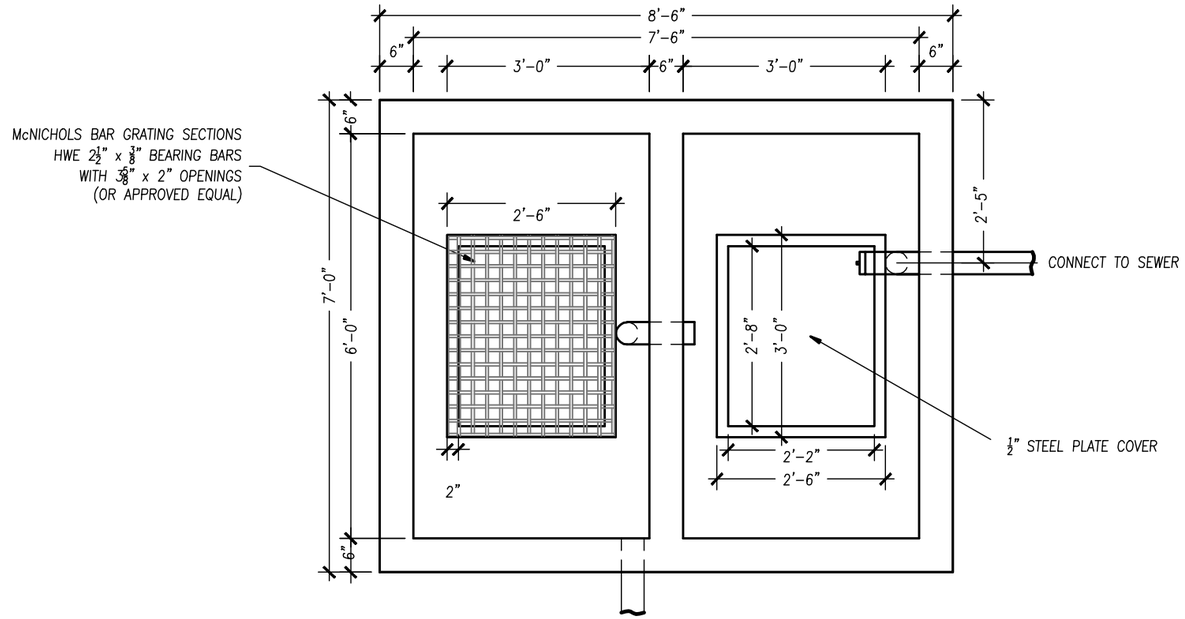
PROJECT NO.: DFC 0713

DATE:

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

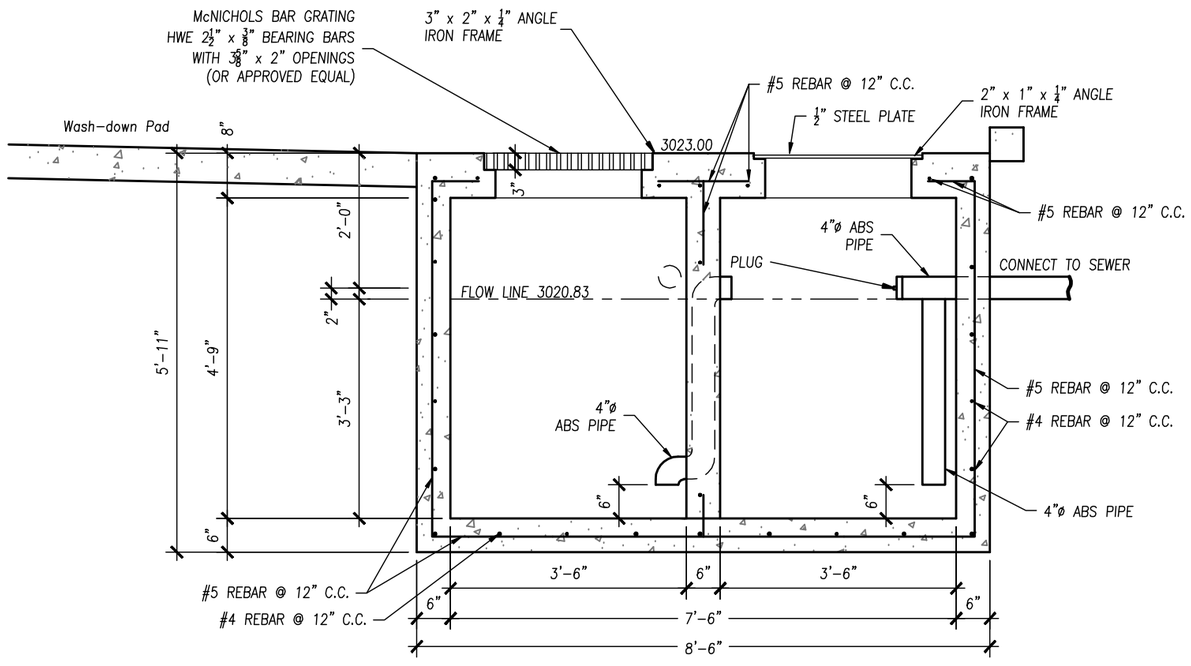
JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET: C3



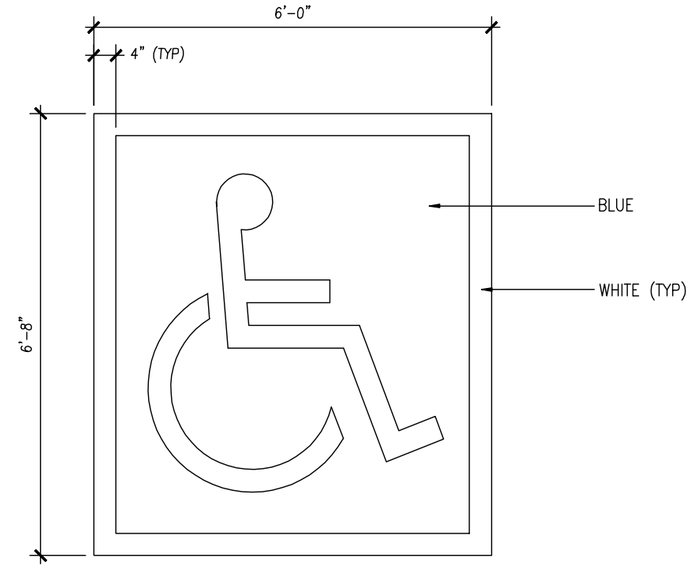
OIL and SAND INTERCEPTOR DETAIL

PLAN VIEW

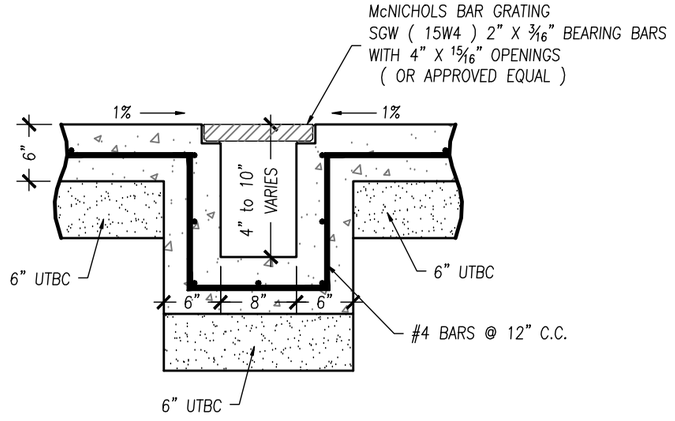


OIL and SAND INTERCEPTOR DETAIL

SIDE VIEW



ACCESSIBILITY MARKING



FLOOR TRENCH DETAIL

ISSUE / REVISIONS:

DFCM REVIEW	
11/30/07	
CDD 1/2/08	

TITLE: **DETAIL SHEET**

DATE:

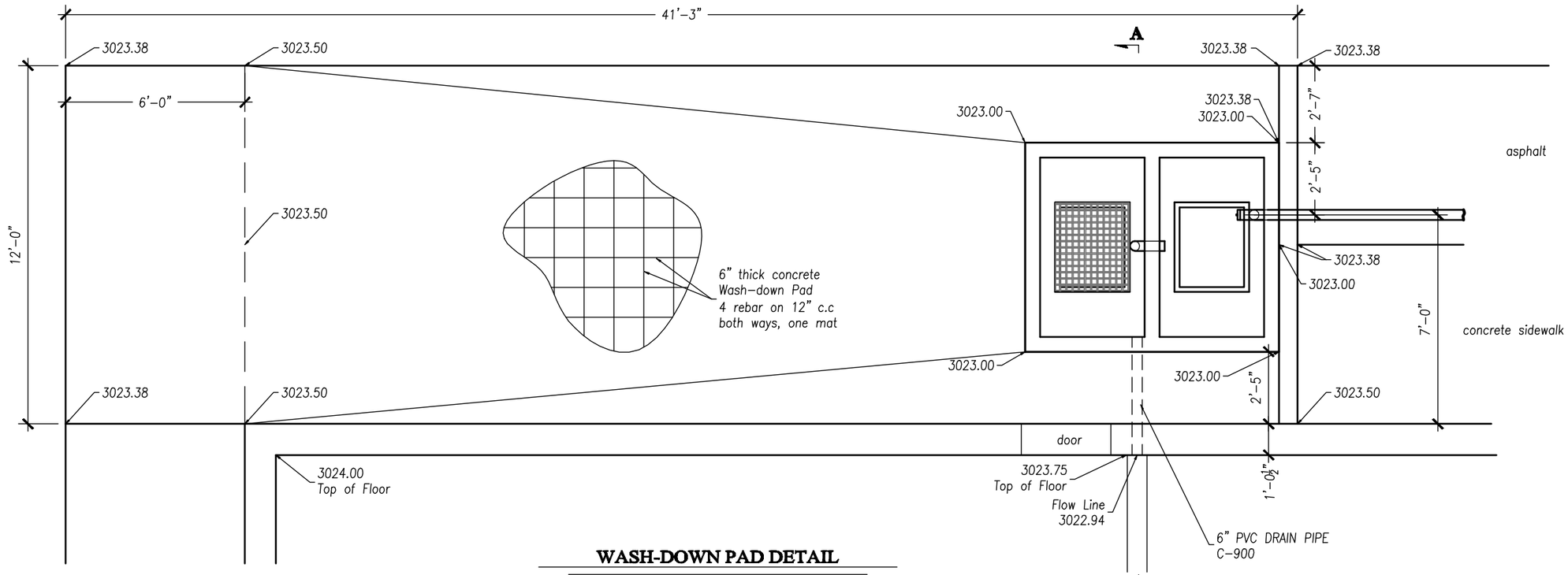
PROJECT NO.: DFC 0713

DRAWN BY:

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

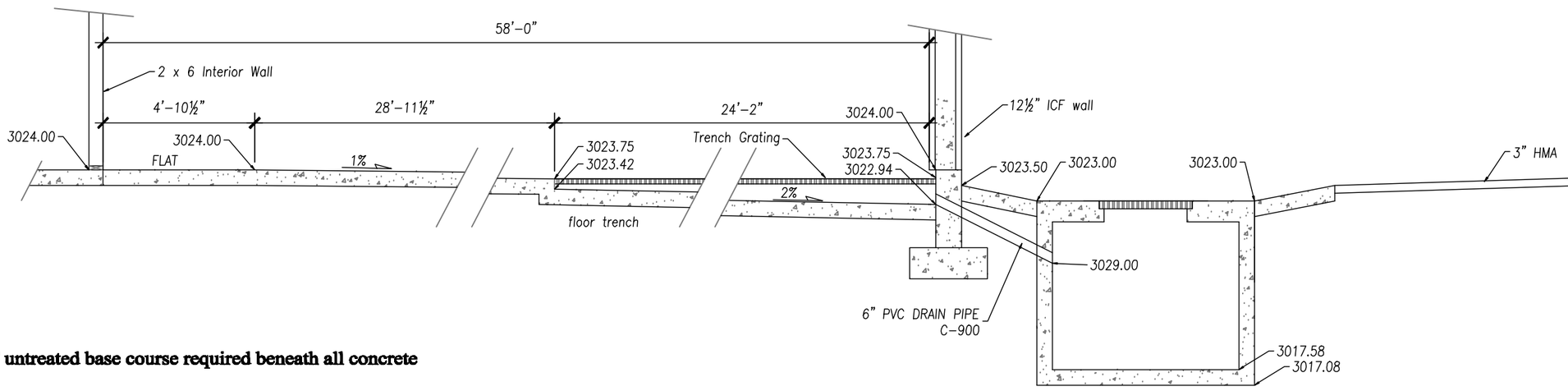
SHEET: C4



WASH-DOWN PAD DETAIL

PLAN VIEW

SCALE: ¼" = 1'-0"



NOTE: 6" untreated base course required beneath all concrete

SECTION A-A

SCALE: ¼" = 1'-0"

ISSUE / REVISIONS:	
DFCM REVIEW	
11/30/07	
CDD 1/2/08	

TITLE: **DETAIL SHEET**

DRAWN BY:

PROJECT NO.: DFC 0713

DATE:

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET: C5

GENERAL NOTES

GENERAL PROJECT DESCRIPTION

1. The project is described as the new construction of a single story building. Construction consists of a ground level slab on grade enclosed by a conbination of load bearing insulated concrete formed walls and concrete stem walls, bearing on concrete spread footings. Roof construction consists of a conventional steel bar joist framed roof. The lateral force resisting system consists of ordinary reinforced concrete shear walls.

GENERAL APPLICATION

1. These drawings must be used in conjunction with the architectural drawings on the project to clearly define all requirements for construction.

2. No Contractor should attempt to bid nor construct any portion of this project without first consulting the project architectural, mechanical, and electrical drawings and specifications.

3. All things that, in the opinion of the Contractor, appear to be deficiencies, omissions, contradictions or ambiguities in the plans and specifications shall be brought to the attention of the Structural Engineer. Plans and/or specifications will be corrected or written interpretations of the alleged deficiency, omission, contradiction or ambiguity will be made by the Structural Engineer before the affected work proceeds. Corrections or written interpretations shall be issued before affected work may proceed.

4. The Contractor shall inform the Structural Engineer, clearly and explicitly in writing of any deviation or substitution from requirements of the contract documents. The Contractor shall not be relieved of any requirement of the contract documents by virtue of the Structural Engineer's review of shop drawings, project data, etc., unless the Contractor has clearly and explicitly informed the Structural Engineer in writing of any deviations or substitutions at the time of submission.

SPECIFICATIONS

1. General Notes are not a substitute nor a replacement for the project specifications. These notes are intended as a guide to the design and/or construction requirements established for this project.

2. No contractor should attempt to bid or construct any portion of the work without consulting the project specifications.

FOUNDATIONS

1. Foundation design is based on minimum criteria set forth in the project Geotechnical Investigation performed by Johansen & Tuttle Engineering Inc, dated October 30, 2007.
2. Foundations and retaining walls have been designed for the following design pressures:
   - Soil Bearing Pressure 3,000 psf
   - Active Earth Pressure 45 psf/ft
   - Passive Earth Pressure 150 psf/ft
   - Friction Coefficient 0.40

3. Bottom of all exterior footings shall bear a minimum 2'-0" below final exterior grade for frost protection

4. Foundation walls having earth placed on each side shall have both sides filled simultaneously to maintain a common elevation

DESIGN CRITERIA

1. Building Code: International Building Code 2006 (IBC) and Utah State Amendments

2. Standards: All Latest Editions
   - American Concrete Institute (ACI)
   - American Iron and Steel Institute (AISI)
   - Steel Joist Instute (SJI)
   - Steel Stud Manufacturers Association (SSMA)

3. Gravity Loading:
   - Roof Dead Load, 15 psf
   - Roof Live Load, 20 psf
   - Flat Roof Snow Load, 25 psf
   - Storage Level Dead Load, 65 psf
   - Storage Level Live Load, 125 psf (Light Storage)

4. Wind Loading:
   - Basic Wind Speed (3-Second Gust), 90 MPH
   - Wind Importance Factor (Iw), 1.0
   - Exposure Category, C
   - Wind Design Base Shear,
     North-South, 21.1 k
     East-West, 26.5 k

5. Seismic Loading:
   - Seismic Importance Factor (Ie), 1.0
   - Seismic Use Group, I
   - Mapped Spectral Response Accelerations (%g)
     SS = 58.8
     S1 = 18.7
   - Site Class, B
   - Spectral Response Coefficients
     SDS = 39.2
     SD1 = 12.5
   - Seismic Design Category, C
   - Basic Seismic Force Resisting System
     Ordinary Reinforced Concrete Shear Walls
   - Response Modification Factor (R), 4.0
   - Seismic Design Base Shear, 70 k

CONTINUED ON NEXT SHEET

STRUCTURAL SHEET LIST

ISSUE / REVISIONS:
11/30/07 DFCM REVIEW
CDD 1/2/08

TITLE: STRUCTURAL GENERAL NOTES
DRAWN BY: CGN
PROJECT NO.: DFC 0713
DATE: DATE

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET:
S1.0.1

GENERAL NOTES CONTINUED

CAST-IN-PLACE CONCRETE

1. Compressive strength at 28 days, and unit weight, shall meet the following criteria.

ELEMENT	STRENGTH (PSI)	WEIGHT (PCF)
– Unless Noted Below	3000	145
– Footings	2500	145
– Slabs on Grade	3000	145
– Foundation Walls	4000	145
– ICF Walls	2500	145
– Storage Level Slab	4000	145

2. Clearance between reinforcing and concrete surfaces:
   - Cast against and permanently exposed to earth, 3"
   - Exposed to earth or weather, 1-1/2"
   - Not Exposed to earth or weather, 3/4"

3. Concrete shall not be placed until reinforcing and embedded items have been inspected by the building inspector.

4. Earth formed trenches may be used for footings.

5. Unless otherwise shown in the architectural drawings, provide 3/4" chamfers at all columns, beams, walls, and slab edges that are exposed to view in the finished structure.

6. See architectural drawings for door and window openings, drip slots, reglets, masonry anchors, and for miscellaneous embedded plates, bolts, anchors, etc.

7. The mechanical drawings shall be referred to and the various trades are responsible for placing of sleeves, outlet boxes, anchors, etc.

REINFORCING STEEL

1. Reinforcing steel shall comply with the following standards:
   - Bars: ASTM A615-grade 60
   - Welded Wire Fabric: ASTM A185.

2. Unless noted, provide continuous reinforcing around corners and through construction joints.

3. Splice bars with contact laps not less than 2'-0" unless noted otherwise.

4. Dowel embedment shall be 1'-0" minimum unless noted otherwise.

5. Splice welded wire fabric by lapping one full mesh space plus 2".

STRUCTURAL STEEL

1. Pipes – A53 – 35 ksi
   Tubes – A500 grade B – 46 ksi
   Plates – A36 – 36 ksi
   Anchor bolts – A36 – 36 ksi
   All Else – A36 – 36 ksi

2. Structural steel has been designed in accordance with Allowable Stress Design (ASD) procedures as required by "AISC Manual Of Steel Construction", Latest Edition, unless noted otherwise.

COLD FORMED METAL FRAMING

1. All members shall conform with the American Iron and Steel Institute (AISI) 'Specification for the Design of Cold-Formed Steel Structural Members'. All framing members shall be formed from galvanized steel, G60, corresponding to the requirements of ASTM A446 with the following minimum yield strengths:
   - 12, 14, & 16 gage joists and studs: 50ksi minimum yield
   - 18 gage and lighter: 33ksi minimum yield, unless noted otherwise.

2. All members shown are standard designations of Steel Stud Manufacturers Association (SSMA). Design of members indicated on structural drawings is based upon minimum member properties published by SSMA.

3. Manufacturer: Member of the Steel Stud Manufacturers Association (SSMA).

4. All framing components shall be cut squarely for attachment to perpendicular members or as required for an angular fit tight against abutting members.

5. Axially loaded studs shall be installed in a manner which will assure that their ends are positioned tight against the inside of runner webs prior to fastening. Provide weak-axis horizontal bracing at 48 inches maximum vertical spacing, both stud flanges.

6. Fastening of components shall be with self drilling screws or welding. Screws shall be of sufficient size to insure the strength of the connection. All welds of galvanized steel shall be touched up with a zinc rich paint. All welds of carbon sheet steel shall be touched up with paint. Wire tying of components will not be allowed.

7. Cutting of steel framing members may be done with a saw or cutting shears. Torch cutting is not permitted.

8. Studs shall be plumbed, aligned, and securely attached to both top and bottom runners. Splices in studs are not permitted. Temporary bracing, where required, shall be provided until erection is completed.

9. Where manufacturer's recommendations for erection, attachment, assembly, bracing, alignment, or other installation or assembly requirements are more stringent than indicated in these drawings or the Project Specifications, the manufacturer's recommendations shall apply.

CONTINUED ON NEXT SHEET

ISSUE / REVISIONS:
11/30/07 DFCM REVIEW
CDD 1/2/08

TITLE: STRUCTURAL GENERAL NOTES
DATE: DATE
DRAWN BY: CGN
PROJECT NO.: DFC 0713

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET:
S1.0.2

GENERAL NOTES CONTINUED

STEEL JOISTS

1. Design and erect in accordance with SJI and project specifications. Conform to requirements of OSHA which includes:
   - Bolted Connections
   - Bottom chord extensions at column centerlines
   - Column joist stability
   - Erection stability bridging

2. Erect in accordance with AISC, SJI, and project specifications. Do not erect damaged joists. Do not field cut, drill or modify joists.

3. Connections:
   - Weld to supports per SJI, unless noted otherwise.
   - Provide slope shoes or bearings as required for level bearing on supports.
   - Provide bolted joist connections for all joists on column centerlines.

4. Provide and anchor bridging per SJI. Extend and connect bridging to adjacent beams and concrete or walls.

5. Provide ceiling extensions where ceilings are attached directly to bottom chord of joists.

6. Locate pipe and equipment hangers and other concentrated loads only where loads are shown on joist shop drawings. Attachment method as approved by joist manufacturer. See joist manufacturer for bottom chord load limitations.

7. Provide camber as appropriate where joists are to support the weight of wet concrete during construction.

STEEL ROOF DECK

1. Comply with SDI standards and project specifications. Conform to requirements of OSHA.

2. Do not suspend point loads from deck including hangers for: ceilings, pipes, ducts, equipment, etc. Contractor installing such point loads shall provide sub-framing to transfer loads to structural members supporting deck.

3. Steel deck: Minimum yield strength 33 ksi.

4. Depth, minimum steel gage and finish are shown on plan.

5. See drawings for deck connection requirements.

COMPOSITE DECK

1. Comply with SDI standards and project specifications. Conform to the requirements of OSHA

2. Steel for deck: Minimum yield strength, 33 ksi.

3. Deck depth, min gage, finish and slab reinforcing are shown on the plans.

4. The gage of the composite deck shall be verified by the deck supplier for the span conditions shown on the final detailed deck shop drawings.

5. Composite deck and slab shall be capable of supporting full-unfactored loads as indicated in these General Notes.

6. Deck shall be capable of supporting unfactored construction loads (wet concrete +20psf) without shoring unless noted otherwise.
   - It shall be the responsibility of the deck supplier to coordinate anticipated construction loads with the concrete contractor.
   - Deck shop drawings shall clearly indicate maximum allowable construction loads.
   - Maximum construction load deflection = L/360.

7. Where Construction methods or slab thickness cause abnormally high construction loads, deck may be shored at contractor's option. General Contractor shall coordinate.
   - Areas that must be shored shall be clearly indicated on composite deck shop drawings
   - Proposed shoring layout and extent shall be submitted to Structural Engineer for review.

8. The final slab thickness shall be no less than called for on the plans.

9. Formed openings through deck.
   a. Form openings (Block out) on top of deck allowing deck to remain in place until concrete cures.
   b. Additional reinforcing not required for openings less that 6 inches square or round or for rectangular openings less than 6 inches x 12 inches, where lesser dimension is perpendicular to span of deck.
   c. Reinforce concrete around openings greater than 6" square or round, up to 5'-0, with rebar. See typical details.

CONTINUED ON NEXT SHEET

ISSUE / REVISIONS:
11/30/07 DFCM REVIEW
CDD 1/2/08

TITLE: STRUCTURAL GENERAL NOTES

DRAWN BY: CGN

PROJECT NO.: DFC 0713

DATE: DATE

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET: S1.0.3

GENERAL NOTES CONTINUED

MISCELLANEOUS NOTES

1. The Contractor is solely responsible for all safety regulations, programs and precautions related to all work on this project.

2. The Contractor is solely responsible for the protection of persons and property either on or adjacent to the project and shall protect it against injury, damage, or loss.

3. Means and methods of construction and erection of structural materials are solely the Contractor's responsibility.

4. The structure is designed to function as a unit upon completion of construction of the project and then, only to support the design loads indicated. The contractor is responsible for means, methods and sequence of construction and the adequacy of the structure to support loads occurring during construction of the project. Furnish all temporary bracing, shoring, and/or support as may be required.

5. Where supported slabs are to be used for staging or temporary storage area the contractor shall verify that unit loads do not exceed the design loads for the supporting slabs.

6. No openings, nor any change in size, dimension or location shall be made in any structural element without written approval of the Structural Engineer.

7. Where dimensions or weights of M.E.P. equipment or systems are variable from manufacturer to manufacturer, verify dimensions and weights shown on drawings with selected manufacturer prior to ordering materials. Notify Structural Engineer of discrepancies.

8. Do not place equipment when shipping or operating weight exceeds weight indicated on structural drawings.

9. Smaller wall, floor, and roof openings are generally not shown on the structural drawings. Refer to drawings of other consultants for such openings.

10. Show all openings through structural members on shop drawings and submit for review. Openings not shown on structural drawings are subject to acceptance and shall be specifically indicated for review and acceptance.

11. Fireproofing of structural elements is not shown on the structural drawings. Refer to the specifications and architectural drawings for fire rating requirements.

12. Do not scale these drawings, use the dimensions shown.

13. See specifications for testing and inspections by Independent Testing Agency employed by the owner.

END OF GENERAL NOTES

STRUCTURAL ABBREVIATIONS

ABBREV.	DEFINITION	ABBREV.	DEFINITION
A.B.	anchor bolts	HORZ	horizontal
ADDNL	additional	ICF	insulated concrete form
A.F.F.	above finished floor	IF	inside face
ALT	alternate	JT	joint
ARCH	architectural	LEN	length
BOT	bottom	LAT	lateral
B/xx	bottom of xx	LLH	long leg horizontal
B.B.	bond beam	LLV	long leg vertical
B.L.	brick ledge	LONG	longitudinal
BLDG	building	LVL	laminated veneer lumber
BM	beam	MAS	masonry
BRG	bearing	MAX	maximum
BTWN	between	MECH	mechanical
CJ	const./control joint	MLAM	microlam
CLR	clear	MFR	manufacturer
CMU	conc. masonry unit	MIN	minimum
COL	column	MTL	metal
CONC	concrete	(N)	new
CONN	connection	NOM	nominal
CONST	construction	NS	normal sheathing
CONT	continuous	O.C.	on center
DTL	detail	OF	outer face
DIM	dimension	O.H.	opposite hand
DK	deck	OPNG	opening
DS	diagonal sheathing	PC	precast
DWGS	drawings	PL	plate
DWL	dowel	REINF	reinforcement
EA	each	REQD	required
EE	extended end	RET	retaining
EF	each face	S.A.D.	see arch. drawings
EFF	effective	S.O.G.	slab on grade
EJ	expansion joint	SC	slip critical
ELEV	elevation	SCHED	schedule
EOC	edge of concrete	SECT	section
EOD	edge of deck	SIP	structural insulated panel
EOM	edge of masonry	SL	slab
EOS	edge of slab	SPA	spacing
EW	each way	STFNR	stiffener
EXIST	existing	STL	steel
(E)	existing	SUPPL	supplier
EXP	expansion	SUPT	support
EXT	exterior, extension	T	top
FL	floor	T/xx	top of xx
FOS	face of stud	THK	thick, thickness
FP	full penetration	TJI	Wood I beam (see notes)
FTG	footing	TRAN	transverse
GB	grade beam	TYP	typical
GEN	general	U.O.N.	unless otherwise noted
GLB	glulam beam	VERT	vertical
HAS	headed anchor stud	VIF	Verify In Field
HK	hook	WWF	welded wire fabric

ISSUE / REVISIONS:
11/30/07 DFCM REVIEW
CDD 1/2/08

TITLE: STRUCTURAL GENERAL NOTES
DATE: DATE
DRAWN BY: CGN
PROJECT NO.: DFC 0713

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET:
S1.0.4

COLD-FORMED STEEL PRODUCT IDENTIFICATION

PER THE STEEL STUD MANUFACTURERS ASSOCIATION (SSMA)

MEMBER DEPTH:
MEASURED IN 1/100 INCHES
(EXAMPLE: 6" = 600 x 1/100 INCHES)

FLANGE WIDTH:
MEASURED IN 1/100 INCHES
(EXAMPLE: 2" = 200 x 1/100 INCHES)

600 S 200 – 54

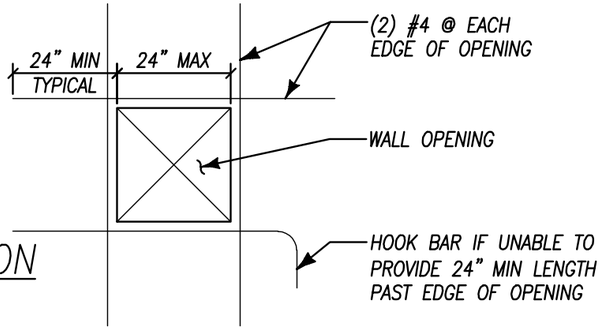
STYLE:
S = STUD OR JOIST SECTION
T = TRACK SECTION
U = CHANNEL SECTION
F = FURRING CHANNEL SECTION

MATERIAL THICKNESS:
MEASURED IN MILS
1 MIL = 1/1000 INCHES
(EXAMPLE: 54 = 54 MILS = 0.054 INCHES)

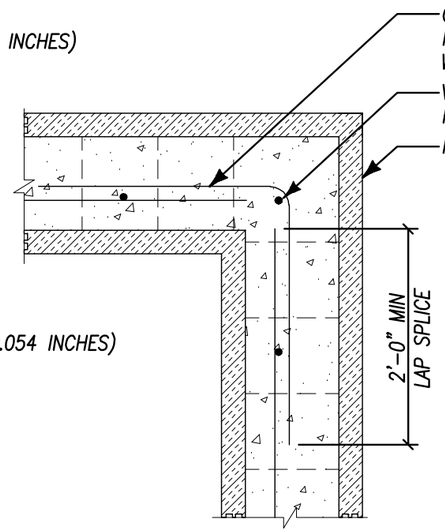
MINIMUM THICKNESS (MILS)	DESIGN THICKNESS (IN)	GAUGE NO.
18	0.0188	25
27	0.0283	22
30	0.0312	20 DRYWALL
33	0.0346	20 STRUCTURAL
43	0.0451	18
54	0.0566	16
68	0.0713	14
97	0.1017	12

PER THE STEEL STUD MANUFACTURERS ASSOCIATION (SSMA)

6 COLD-FORMED STEEL PRODUCTS
SCALE : N.T.S.



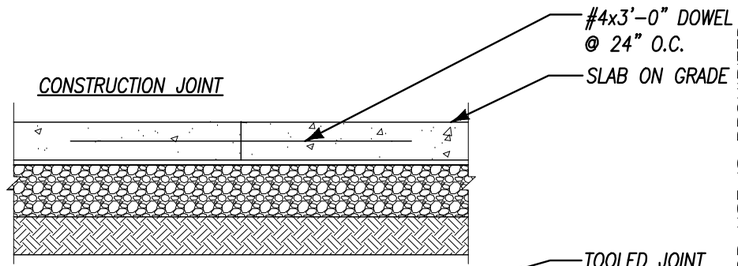
5 TYPICAL WALL OPENING REINFORCING
SCALE : N.T.S.



4 TYPICAL WALL CORNER REINFORCING
SCALE : N.T.S.

KEY	DIMENSIONS W	L	D	FOOTING REINFORCING	REINFORCING DOWELS
F-1	3'-0"	CONT.	10"	(4)#4 LONGITUDINAL	MATCH VERT WALL REINF
F-2	2'-6"	CONT.	10"	(4)#4 LONGITUDINAL	MATCH VERT WALL REINF
F-3	2'-0"	CONT.	1'-0"	(3)#4 LONGITUDINAL	MATCH VERT WALL REINF
F-4	3'-0"	3'-0"	1'-0"	(4)#4 EACH WAY	MATCH VERT PIER REINF
F-5					
F-6					

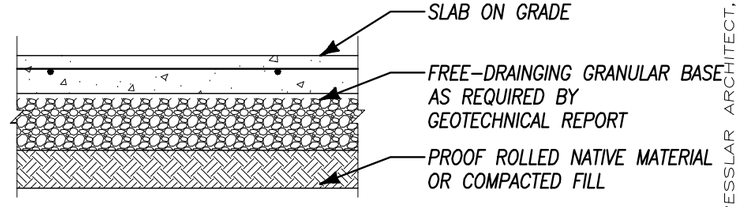
3 FOOTING SCHEDULE
SCALE : N.T.S.



SLAB THICKNESS (in)	MINIMUM SPACING OF JOINTS (ft) MAXIMUM-SIZE AGGREGATE LESS THAN 3/4"	MAXIMUM-SIZE AGGREGATE 3/4" AND LARGER
4	10	13
5	10	13
6	12	15
7	14	18
8	16	20
9	18	23
10	20	25

PORTLAND CEMENT ASSOCIATION "CONCRETE FLOORS ON GROUND"

2 TYPICAL SLAB JOINTS
SCALE : N.T.S.



1 TYPICAL SLAB ON GRADE
SCALE : N.T.S.

NOTE:
TYPICAL DETAILS ON THIS SHEET MAY NOT BE CUT ON PLAN. THE CONTRACTOR SHALL APPLY THE DETAILS AS REQUIRED.

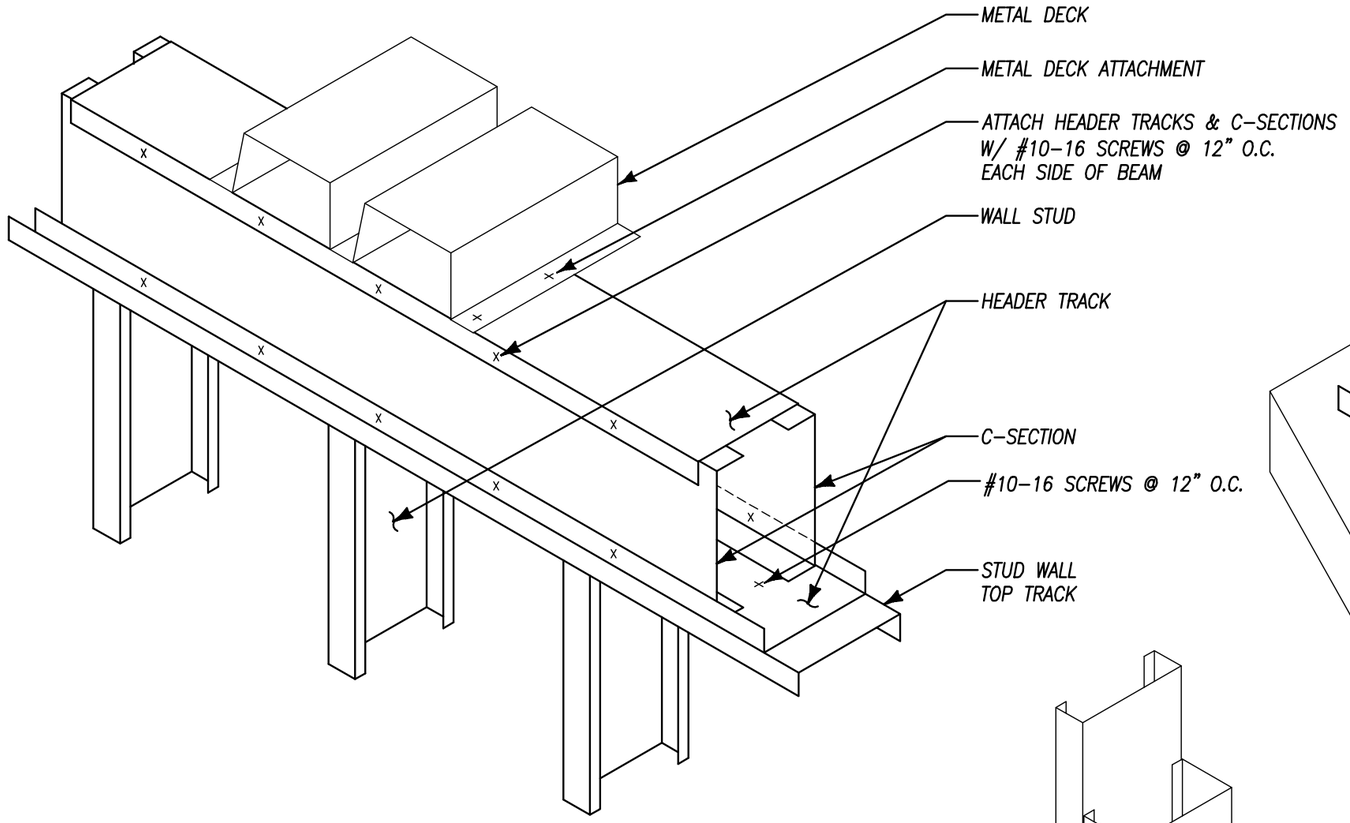
ISSUE / REVISIONS:
11/30/07 DFCM REVIEW
CDD 1/2/08

TITLE: SCHEDULES AND TYPICAL DETAILS
DATE: DATE
DRAWN BY: CGN
PROJECT NO.: DFC 0713

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

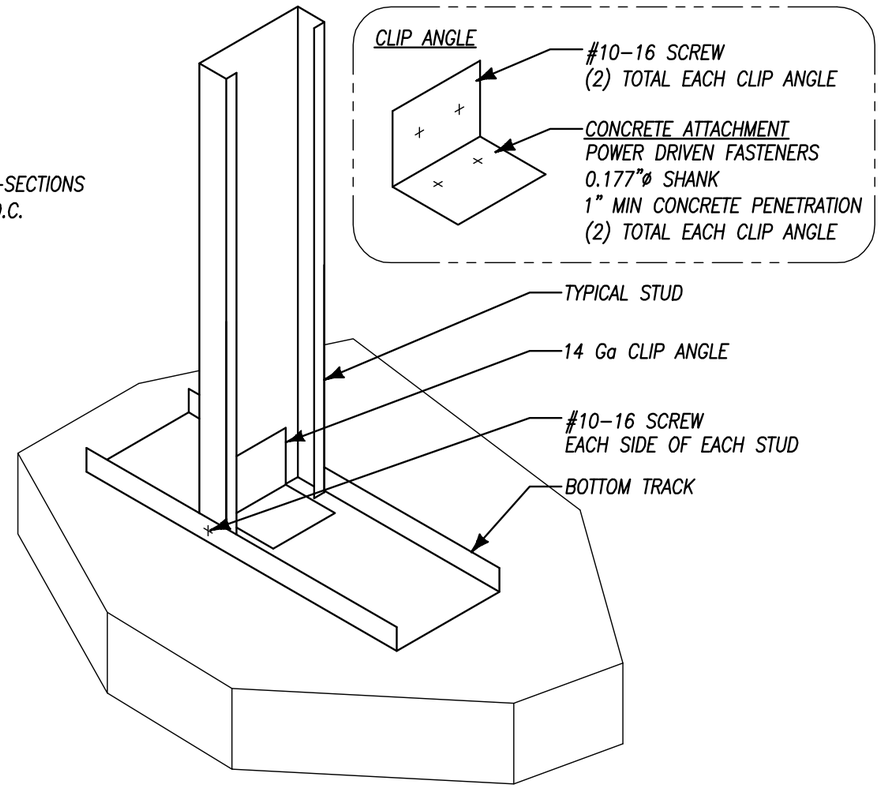
SHEET: S1.1



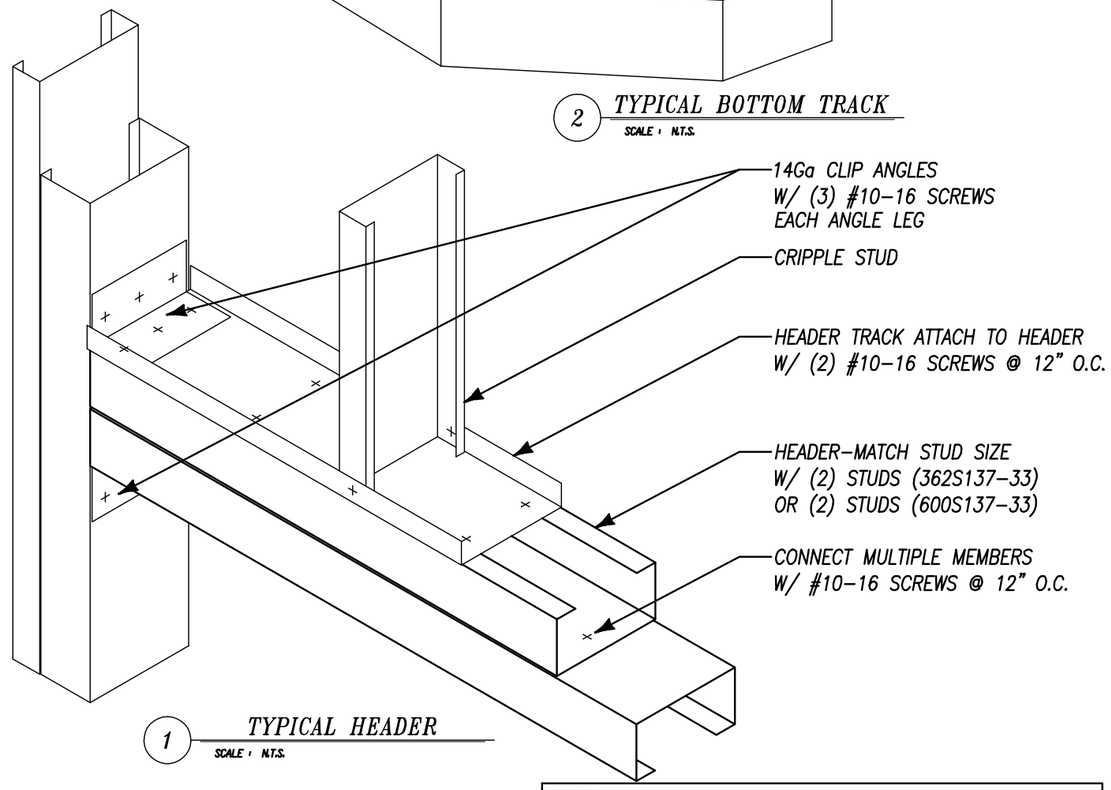
KEY	BOX HEADER		NOTES:
	C-SECTION	HEADER TRACK	
SH-1	600S137-33	362T150-33	--
SH-2	1000S162-43	362T150-33	--
SH-3	1000S162-43	600T150-33	--

NOTES:
1. ALL COLD-FORMED STEEL MEMBERS ARE IDENTIFIED PER THE STEEL STUD MANUFACTURERS ASSOCIATION (SSMA) STANDARD.
2. A TYPICAL BOX HEADER CONSISTS OF TWO C-SECTIONS AND TWO HEADER TRACKS, UNLESS NOTED OTHERWISE
3. INDIVIDUAL MEMBER SPLICES SHALL BE STAGGERED 4'-0" MINIMUM

3 TYPICAL BOX HEADER
SCALE : N.T.S.



2 TYPICAL BOTTOM TRACK
SCALE : N.T.S.



1 TYPICAL HEADER
SCALE : N.T.S.

NOTE:
TYPICAL DETAILS ON THIS SHEET MAY NOT BE CUT ON PLAN. THE CONTRACTOR SHALL APPLY THE DETAILS AS REQUIRED.

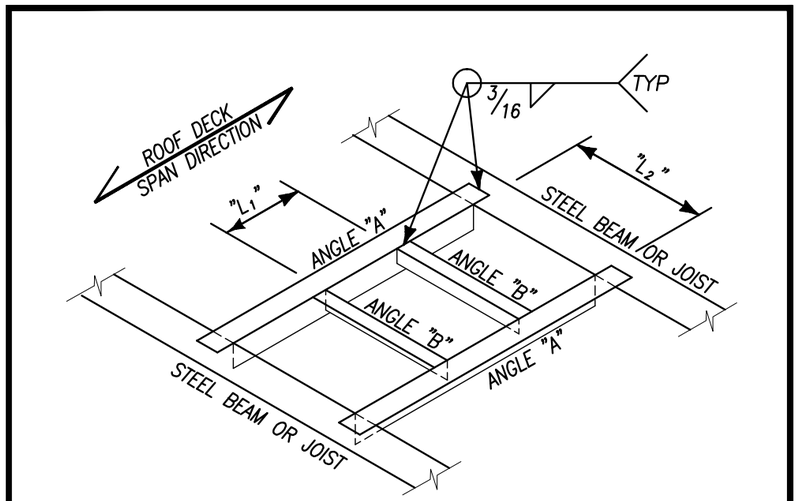
ISSUE / REVISIONS:
11/30/07 DFCM REVIEW
CDD 1/2/08

TITLE: SCHEDULES AND TYPICAL DETAILS
DRAWN BY: CGN
PROJECT NO.: DFC 0713
DATE: DATE

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

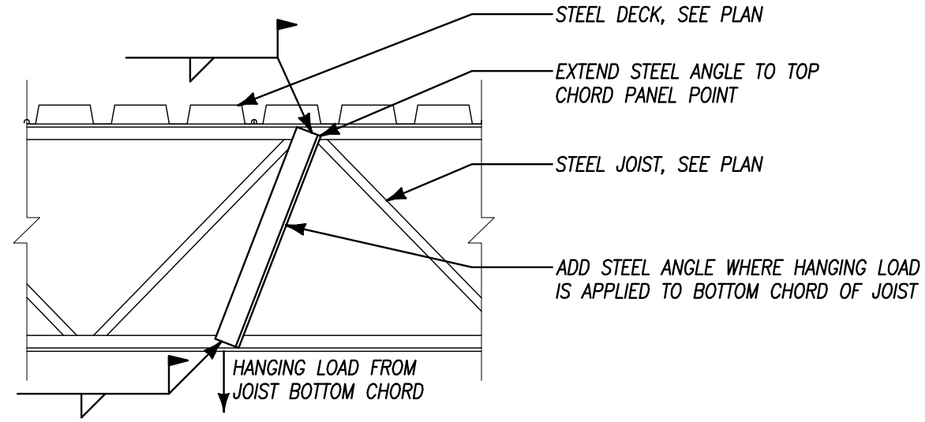
JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET:
S1.2

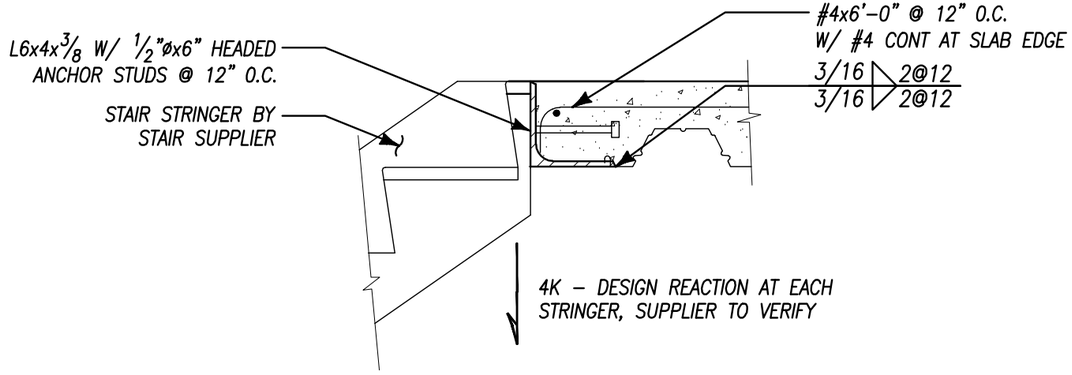


"L_1" OR "L_2" (USE LARGER VALUE)	ANGLE "A"	ANGLE "B"
UP TO 1'-0"	L3x3x3/16	L3x3x3/16
UP TO 2'-0"	L3x3x3/16	L3x3x3/16
UP TO 3'-0"	L3x3x1/4	L3x3x3/16
UP TO 4'-0"	L3 1/2x3 1/2x1/4	L3x3x1/4
UP TO 5'-0"	4x4x1/4	L3 1/2x3 1/2x1/4
UP TO 7'-0"	6x4x1/4 (L.L.V.)	L4x4x1/4

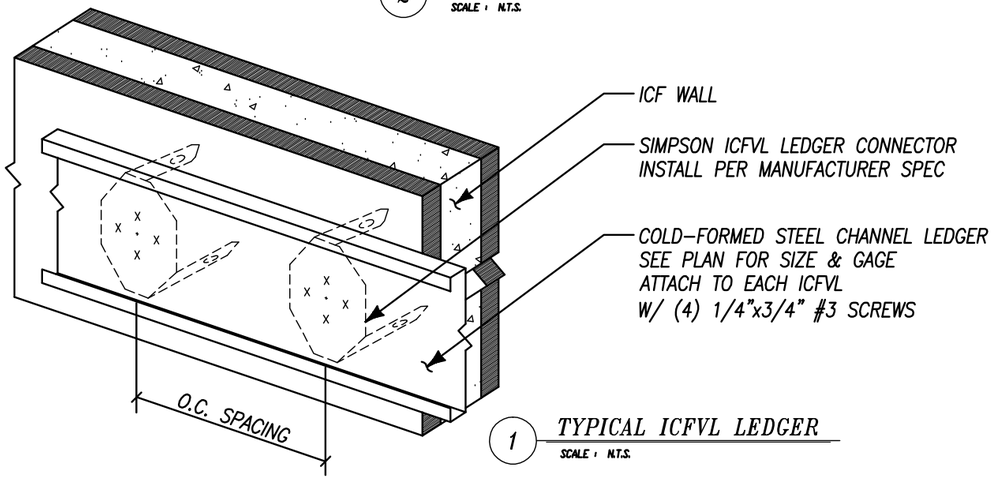
4 TYPICAL DECK SUPPORT
SCALE : N.T.S.



3 TYPICAL JOIST HANGER
SCALE : N.T.S.



2 TYPICAL HEAD OF STAIR
SCALE : N.T.S.



1 TYPICAL ICFVL LEDGER
SCALE : N.T.S.

NOTE:
TYPICAL DETAILS ON THIS SHEET MAY NOT BE CUT ON PLAN. THE CONTRACTOR SHALL APPLY THE DETAILS AS REQUIRED.

ISSUE / REVISIONS:
11/30/07 DFCM REVIEW
CDD 1/2/08

TITLE: SCHEDULES AND TYPICAL DETAILS
DRAWN BY: CGN
PROJECT NO.: DFC 0713
DATE: DATE

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET:
S1.3

LEGEND

COLUMNS

- COLUMN ABOVE
- COLUMN BELOW

FRAMING

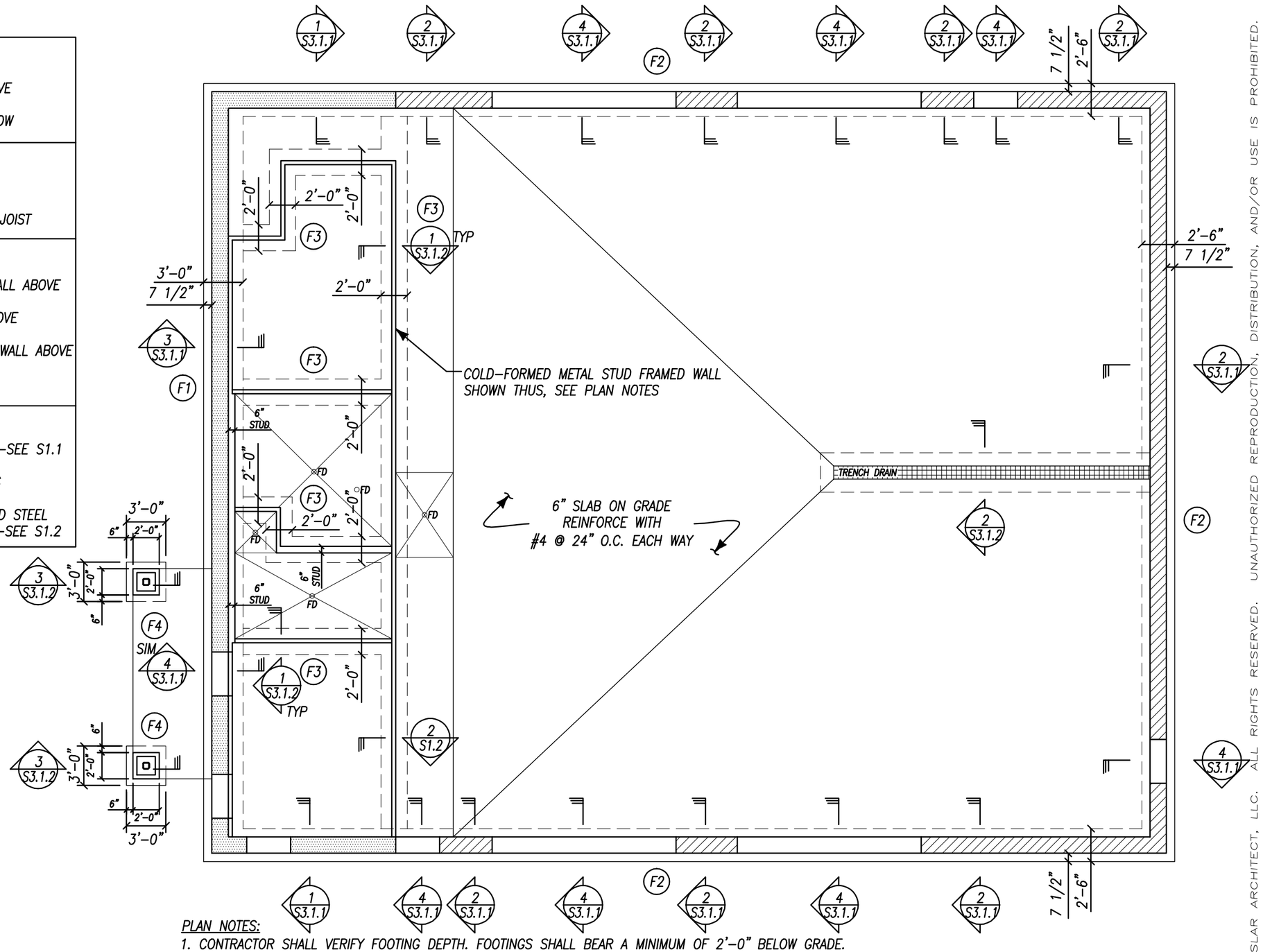
- STEEL BEAM
- STEEL ROOF JOIST

WALLS

- CONCRETE WALL ABOVE
- ICF WALL ABOVE
- METAL STUD WALL ABOVE
- WALL BELOW

SYMBOLS

- F1 — FOOTING KEY–SEE S1.1
- 1 — KEYED NOTES
- SH–1 — COLD–FORMED STEEL BOX HEADER–SEE S1.2



PLAN NOTES:

1. CONTRACTOR SHALL VERIFY FOOTING DEPTH. FOOTINGS SHALL BEAR A MINIMUM OF 2'–0" BELOW GRADE.
2. TYPICAL EXTERIOR WALL CONSTRUCTION CONSISTS OF INSULATED CONCRETE FORMED (ICF) WALLS ON CONCRETE STEM WALLS & SPREAD FOOTINGS.
3. TYPICAL INTERIOR LOAD BEARING WALL CONSTRUCTION CONSISTS OF 3–5/8" COLD–FORMED METAL STUDS (362S137–33) @ 16" O.C.
4. WHERE NOTED, INTERIOR LOAD BEARING WALL CONSTRUCTION CONSISTS OF 6" COLD–FORMED METAL STUDS (600S137–33) @ 16" O.C.
5. ATTACH INTERIOR WALL SHEATHING TO STUDS WITH DRYWALL SCREWS AT 6" O.C. AT WALL BOUNDARIES, AND PANEL JOINTS AND 12" O.C. INTERMEDIATE.
6. SEE ARCHITECT FOR GYPSUM SHEATHING SPECIFICATION.
7. SEE ARCHITECT FOR ALL DIMENSIONS AND ELEVATIONS.
8. SEE SHEET S1.0.1, S1.0.2, S1.0.3, & S1.0.4 FOR GENERAL NOTES.
9. SEE SHEET S1.1, 1.2 & S1.3 FOR SCHEDULES AND TYPICAL DETAILS.

1 FOUNDATION PLAN
SCALE : 1/8" = 1'-0" 1143_pln_1

ISSUE / REVISIONS:
11/30/07 DFCM REVIEW
CDD 1/2/08

TITLE: FOUNDATION PLAN
DATE: DATE
DRAWN BY: CGN
PROJECT NO.: DFC 0713

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET: S2.1

LEGEND

COLUMNS

- COLUMN ABOVE
- COLUMN BELOW

FRAMING

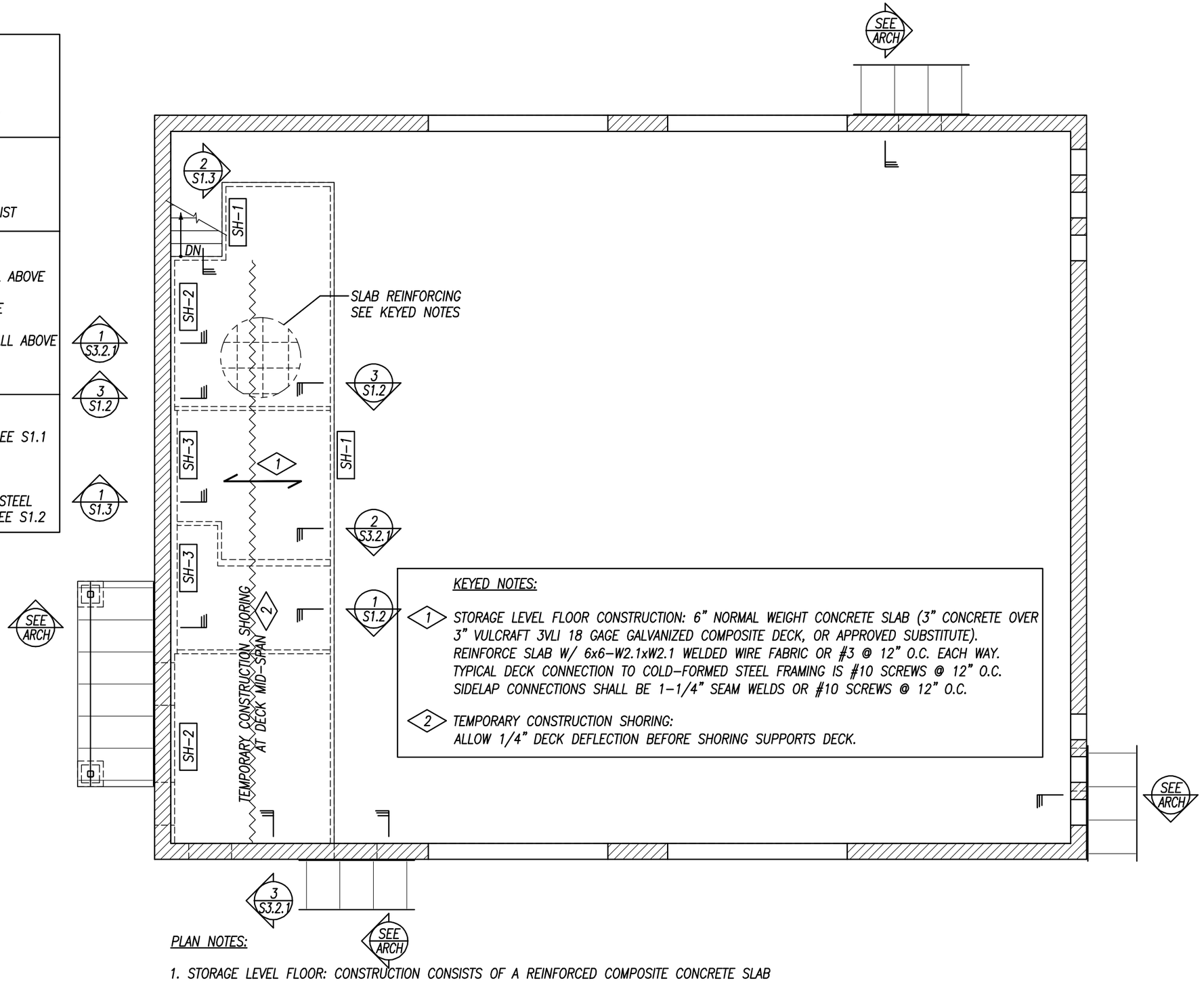
- STEEL BEAM
- STEEL ROOF JOIST

WALLS

- CONCRETE WALL ABOVE
- ICF WALL ABOVE
- METAL STUD WALL ABOVE
- WALL BELOW

SYMBOLS

- F1 — FOOTING KEY–SEE S1.1
- 1 — KEYED NOTES
- SH–1 — COLD–FORMED STEEL BOX HEADER–SEE S1.2



KEYED NOTES:

1. STORAGE LEVEL FLOOR CONSTRUCTION: 6" NORMAL WEIGHT CONCRETE SLAB (3" CONCRETE OVER 3" VULCRAFT 3VLI 18 GAGE GALVANIZED COMPOSITE DECK, OR APPROVED SUBSTITUTE). REINFORCE SLAB W/ 6x6–W2.1xW2.1 WELDED WIRE FABRIC OR #3 @ 12" O.C. EACH WAY. TYPICAL DECK CONNECTION TO COLD–FORMED STEEL FRAMING IS #10 SCREWS @ 12" O.C. SIDELAP CONNECTIONS SHALL BE 1–1/4" SEAM WELDS OR #10 SCREWS @ 12" O.C.
2. TEMPORARY CONSTRUCTION SHORING: ALLOW 1/4" DECK DEFLECTION BEFORE SHORING SUPPORTS DECK.

PLAN NOTES:

1. STORAGE LEVEL FLOOR: CONSTRUCTION CONSISTS OF A REINFORCED COMPOSITE CONCRETE SLAB ON STEEL DECK, BEARING ON COLD–FORMED STEEL STUD FRAMED WALLS.
2. SEE KEYED NOTES FOR COMPOSITE CONCRETE SLAB CONSTRUCTION.
3. SEE ARCHITECT DRAWINGS FOR ALL DIMENSIONS AND ELEVATIONS.
4. SEE SHEET S1.0.1, S1.0.2, S1.0.3, & S1.0.4 FOR GENERAL NOTES.
5. SEE SHEET S1.1, 1.2 & S1.3 FOR SCHEDULES AND TYPICAL DETAILS.

1 STORAGE LEVEL FRAMING PLAN
SCALE : 1/8" = 1'-0" 1143_pln_2

ISSUE / REVISIONS:
11/30/07 DFCM REVIEW
CDD 1/2/08

TITLE: STORAGE LEVEL FRAMING PLAN
DATE: DATE
DRAWN BY: CGN
PROJECT NO.: DFC 0713

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET: S2.2

LEGEND

COLUMNS

- COLUMN ABOVE
- COLUMN BELOW

FRAMING

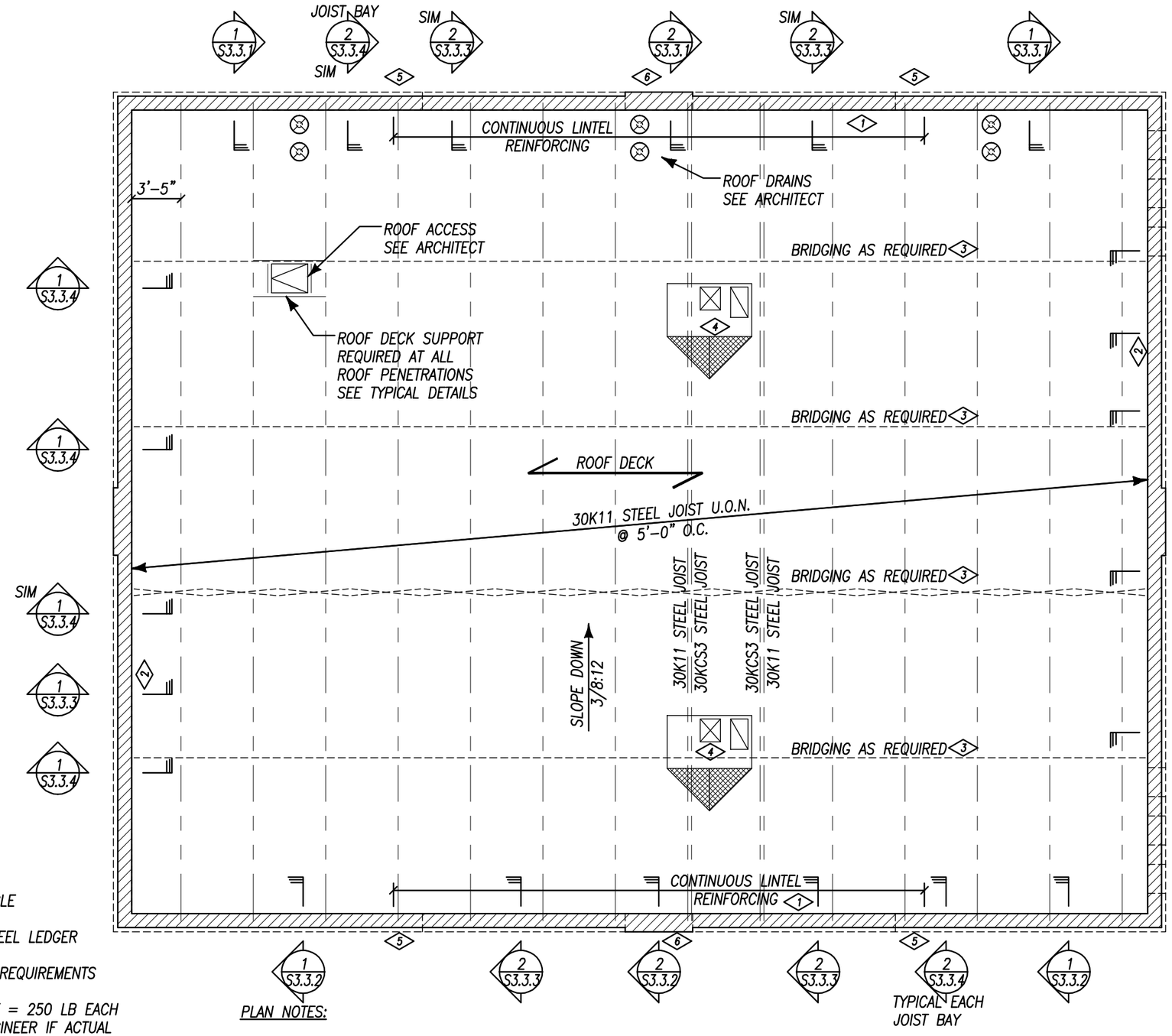
- STEEL BEAM
- STEEL ROOF JOIST

WALLS

- CONCRETE WALL ABOVE
- ICF WALL ABOVE
- METAL STUD WALL ABOVE
- WALL BELOW

SYMBOLS

- F1 — FOOTING KEY–SEE S1.1
- 1 — KEYED NOTES
- SH–1 — COLD–FORMED STEEL BOX HEADER–SEE S1.2



KEYED NOTES:

1. L3x3x3/16 DECK SUPPORT ANGLE
2. 600S250–54 COLD–FORMED STEEL LEDGER
3. HORIZONTAL BRIDGING PER SJI REQUIREMENTS
4. EVAPORATIVE COOLER – WEIGHT = 250 LB EACH CONTRACTOR SHALL NOTIFY ENGINEER IF ACTUAL UNIT OPERATING WEIGHT EXCEEDS 250 LB
5. LINTEL REINFORCING SHALL EXTEND A MINUMUM OF 2'–0" PAST THE EDGE OF THE OPENING
6. LINTEL REINFORCING SHALL EXTEND CONTINUOUS THROUGH THE WALL BETWEEN VEHICLE BAY DOORS

PLAN NOTES:

1. STEEL ROOF DECK CONSTRUCTION: 1–1/2" TYPE B, 20 GAGE STEEL ROOF DECK (2–SPAN CONTINUOUS MINIMUM).
2. TYPICAL CONNECTION OF STEEL ROOF DECK TO SUPPORTS IS 5/8" PUDDLE WELDS IN 36/4 LAYOUT PATTERN.
3. TYPICAL SIDELAP CONNECTION IS 1–1/4" SEAM WELDS OR #10 TEK SCREWS AT 12" O.C.
4. STEEL DECK FINISH SHALL BE PRIME–PAINTED.
5. SEE ARCHITECT DRAWINGS FOR TOP OF STEEL AND TOP OF WALL ELEVATIONS.
6. SEE ARCHITECT DRAWINGS FOR ALL DIMENSIONS.
7. SLOPE STRUCTURE TO DRAINS.
8. SEE SHEET S1.0.1, S1.0.2, S1.0.3, & S1.0.4 FOR GENERAL NOTES.
9. SEE SHEET S1.1, 1.2 & S1.3 FOR SCHEDULES AND TYPICAL DETAILS.

1 ROOF FRAMING PLAN
SCALE : 1/8" = 1'-0" 1143_pln_3

ISSUE / REVISIONS:
11/30/07 DFCM REVIEW
CDD 1/2/08

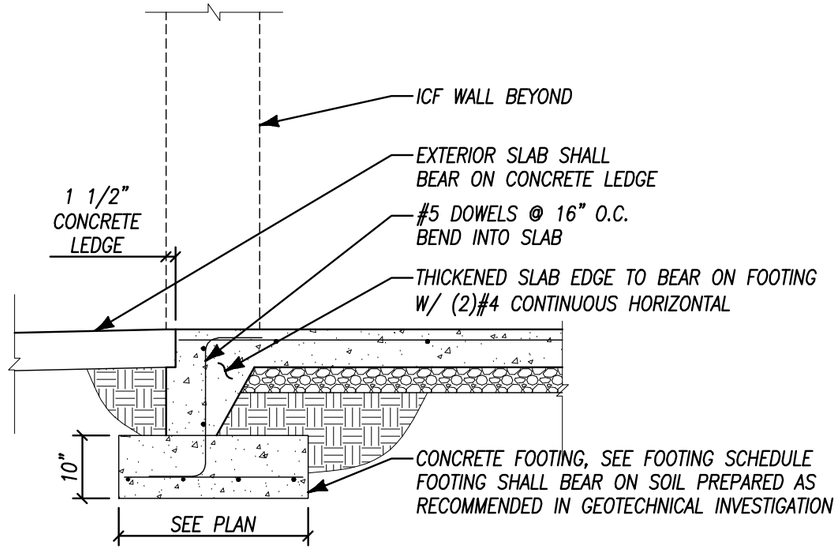
ROOF FRAMING PLAN

PROJECT NO.: DFC 0713
DRAWN BY: CGN
DATE: DATE

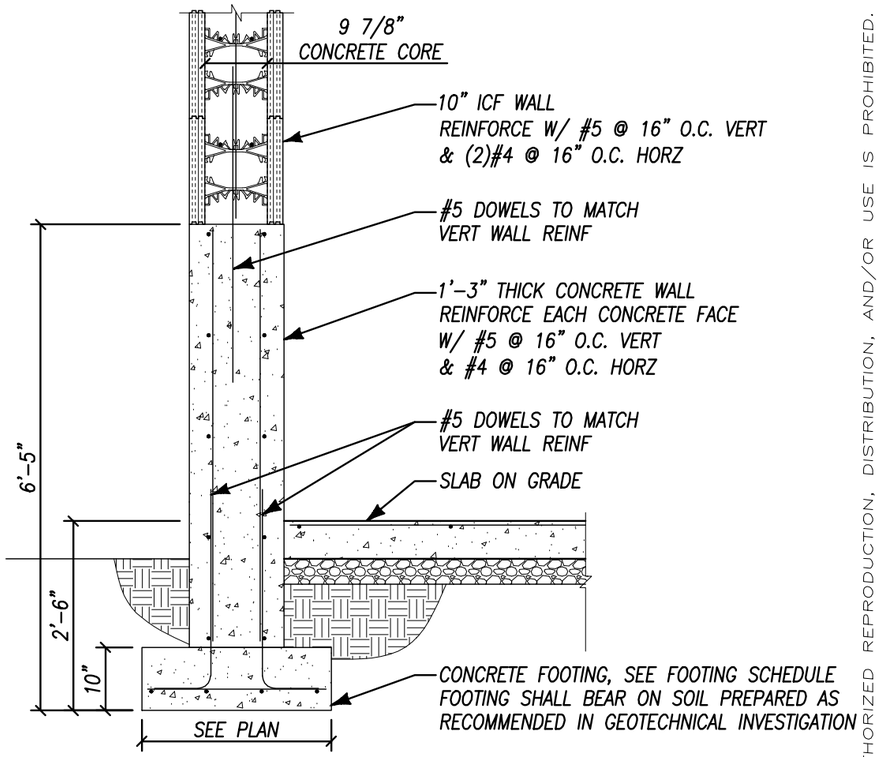
PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

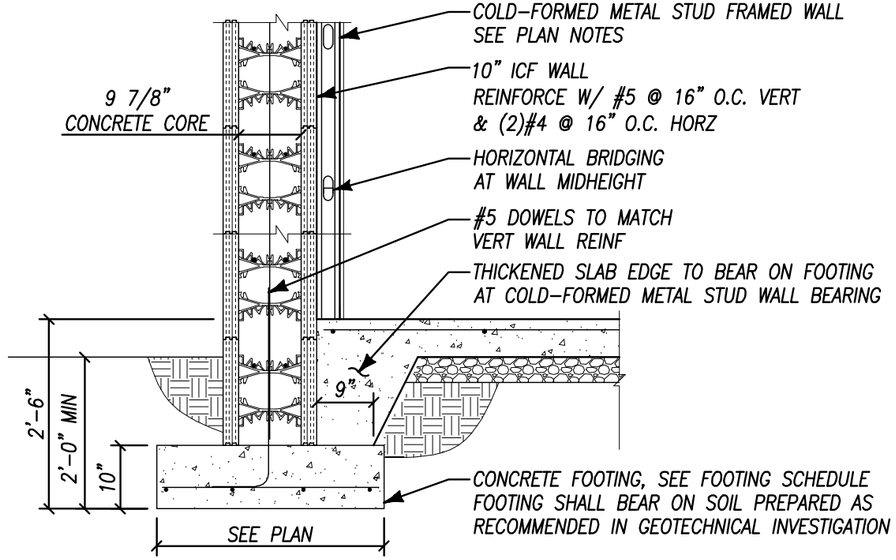
SHEET: S2.3



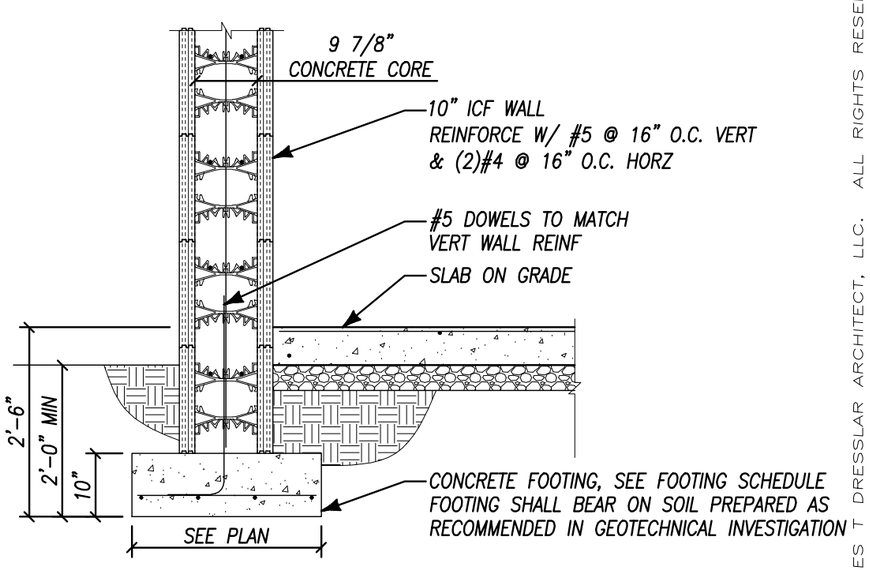
4 FOUNDATION DETAIL
SCALE : 1/2" = 1'-0" 1143_dt_004



2 FOUNDATION DETAIL
SCALE : 1/2" = 1'-0" 1143_dt_002



3 FOUNDATION DETAIL
SCALE : 1/2" = 1'-0" 1143_dt_003



1 FOUNDATION DETAIL
SCALE : 1/2" = 1'-0" 1143_dt_001

ISSUE / REVISIONS:
11/30/07 DFCM REVIEW
CDD 1/2/08

TITLE: FOUNDATION DETAILS

DRAWN BY: CGN

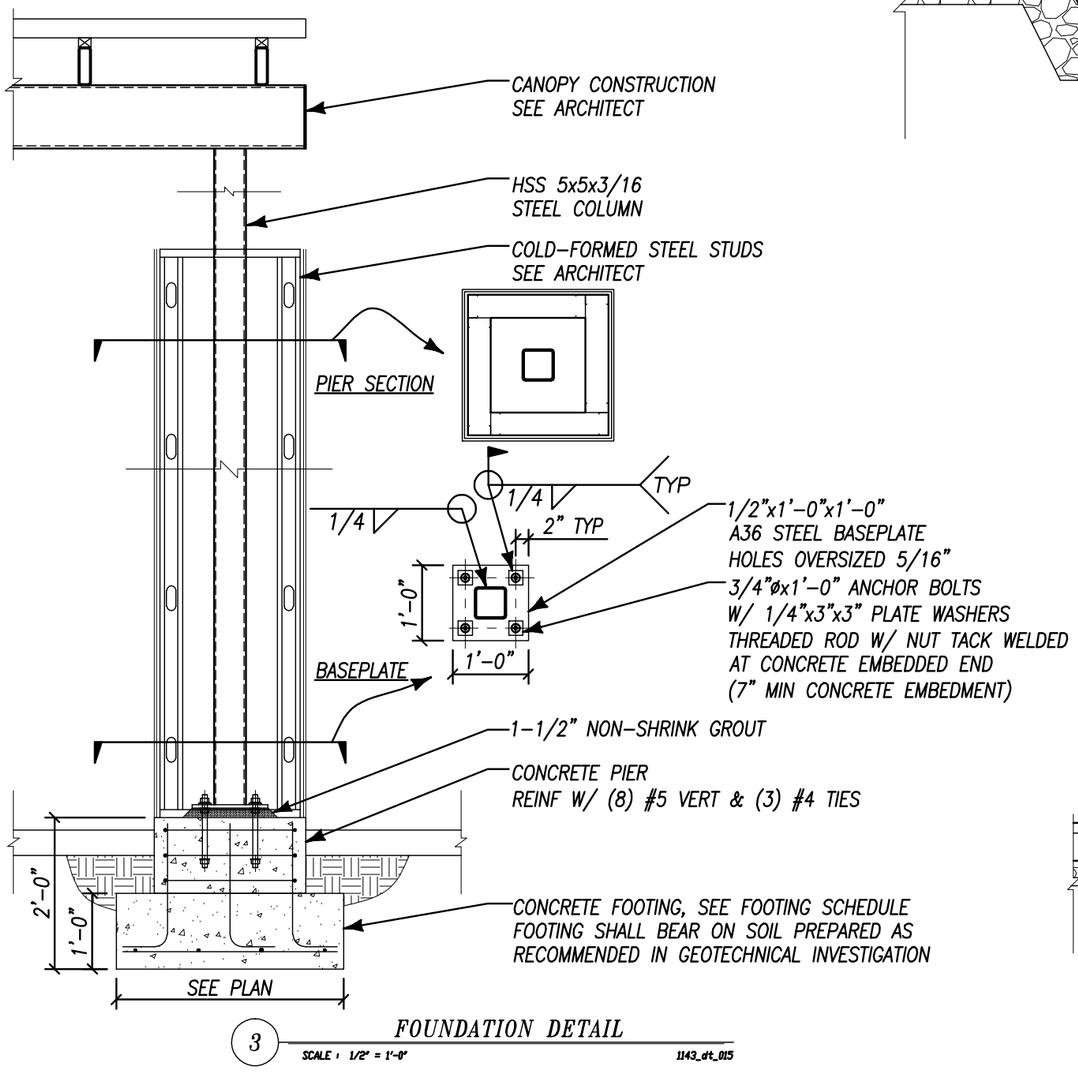
PROJECT NO.: DFC 0713

DATE: DATE

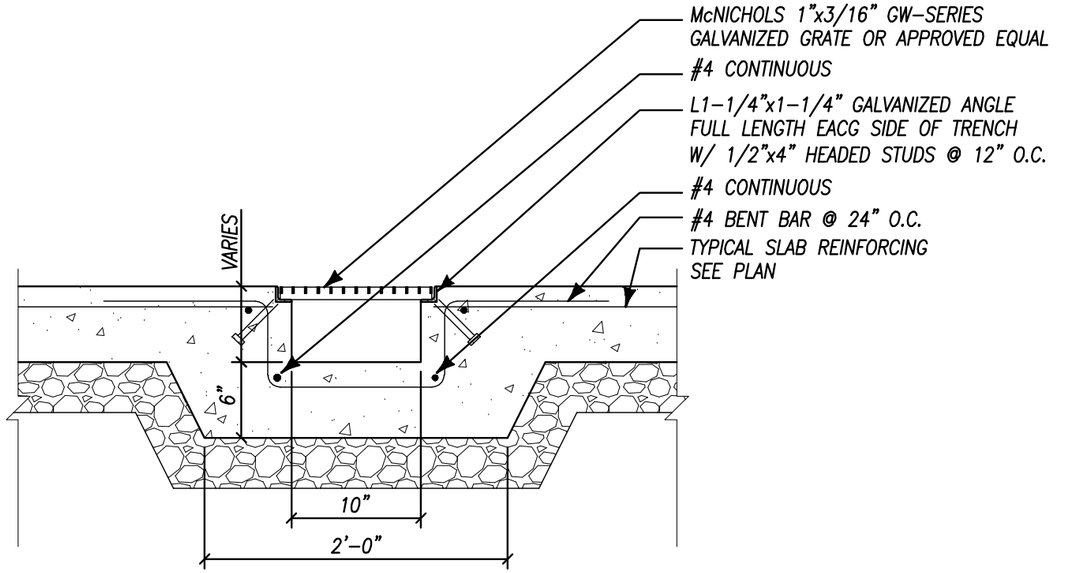
PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

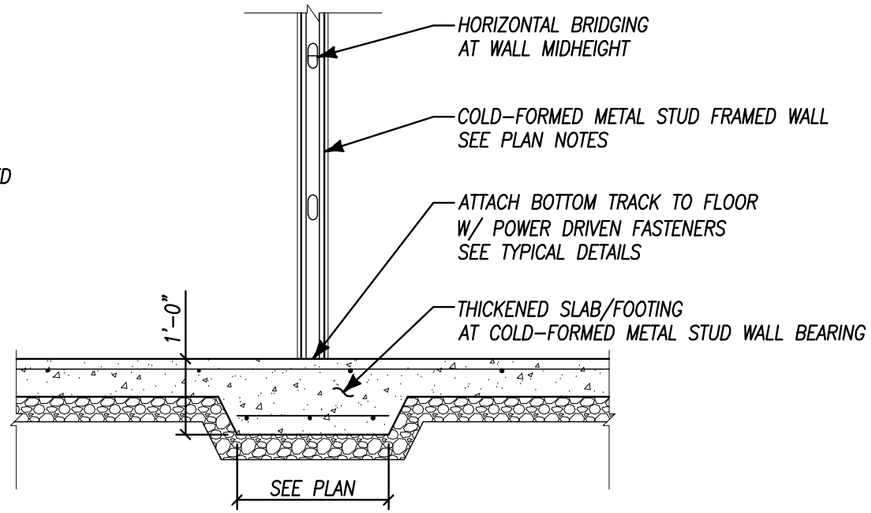
SHEET: S3.1.1



3 FOUNDATION DETAIL
SCALE : 1/2" = 1'-0" 1143_dt_015



2 TRENCH DRAIN
SCALE : 1" = 1'-0" 1143_dt_016



1 FOUNDATION DETAIL
SCALE : 1/2" = 1'-0" 1143_dt_005

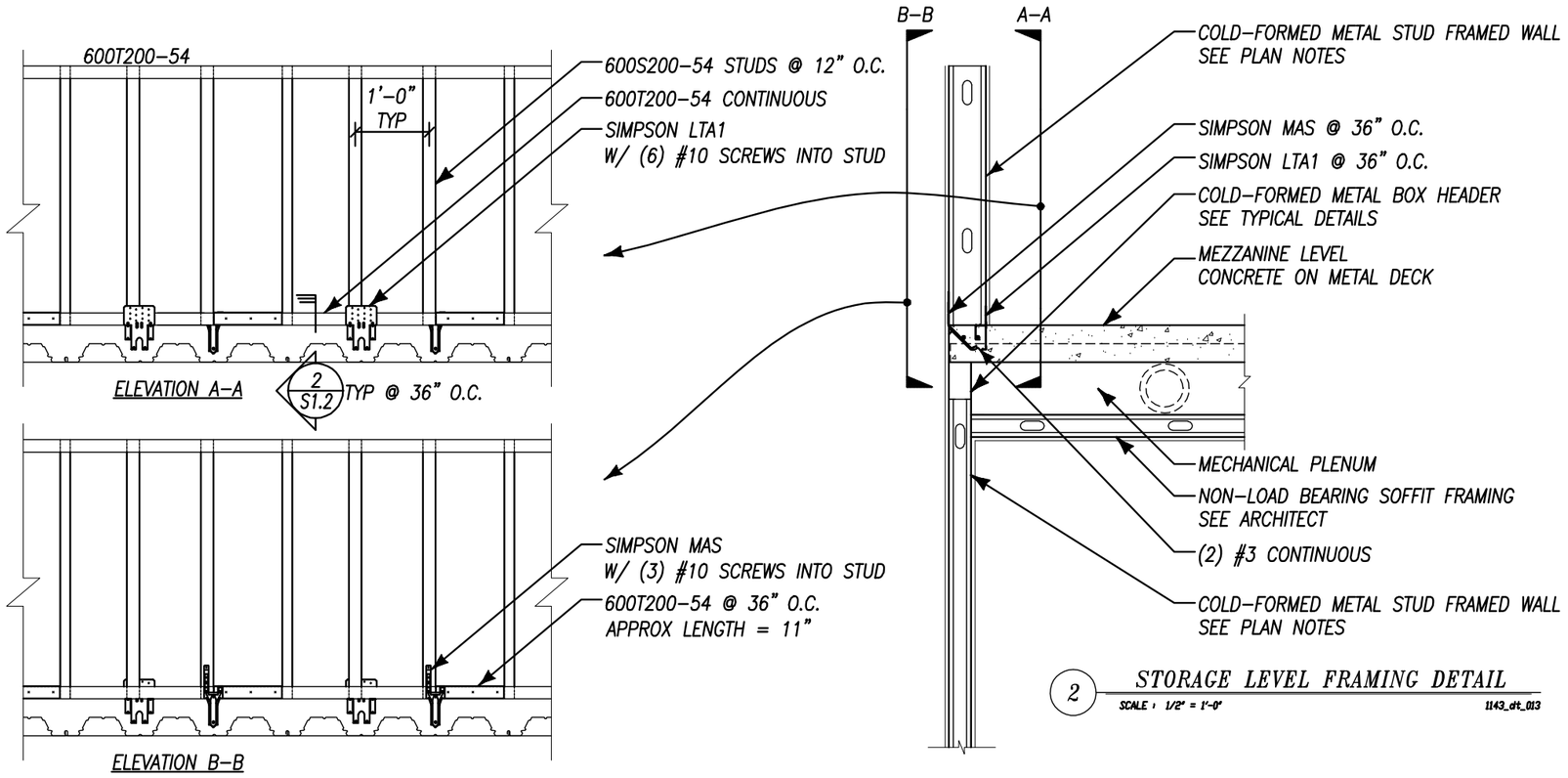
ISSUE / REVISIONS:
11/30/07 DFCM REVIEW
CDD 1/2/08

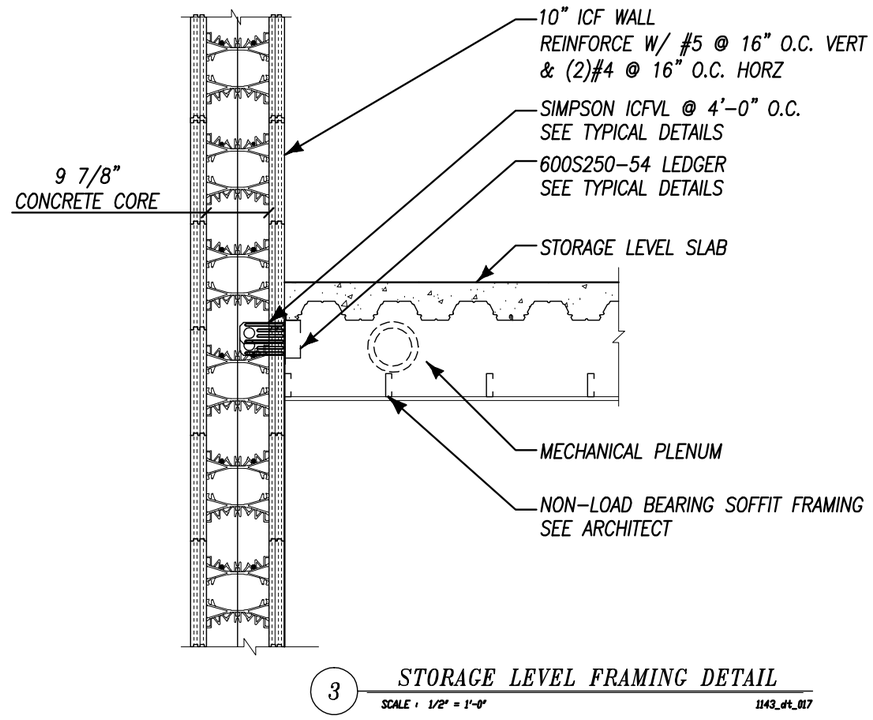
TITLE: FOUNDATION DETAILS
DRAWN BY: CGN
PROJECT NO.: DFC 0713
DATE: DATE

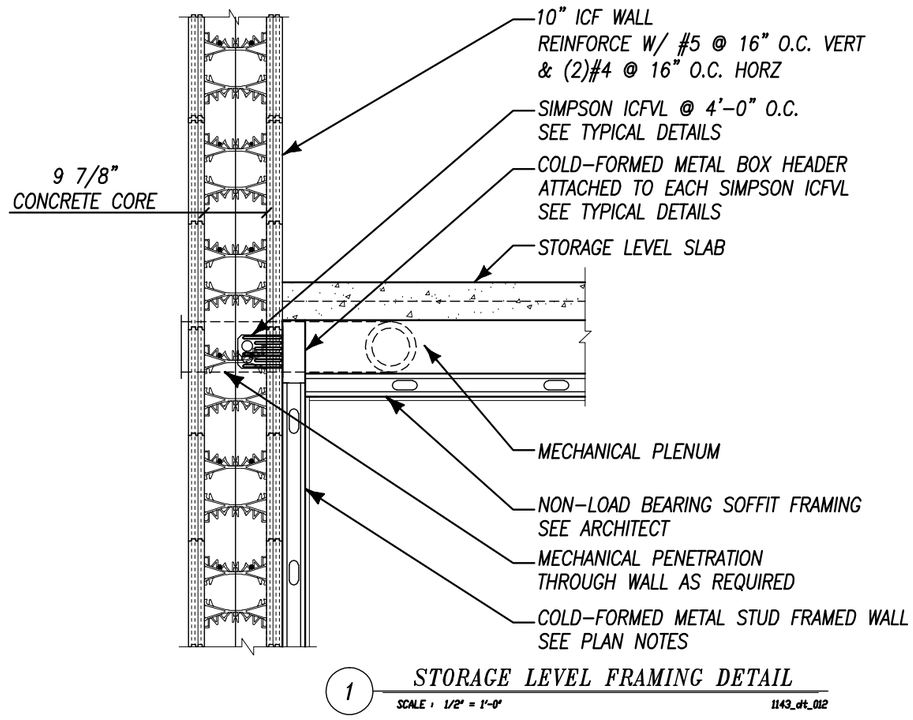
PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET:
S3.1.2







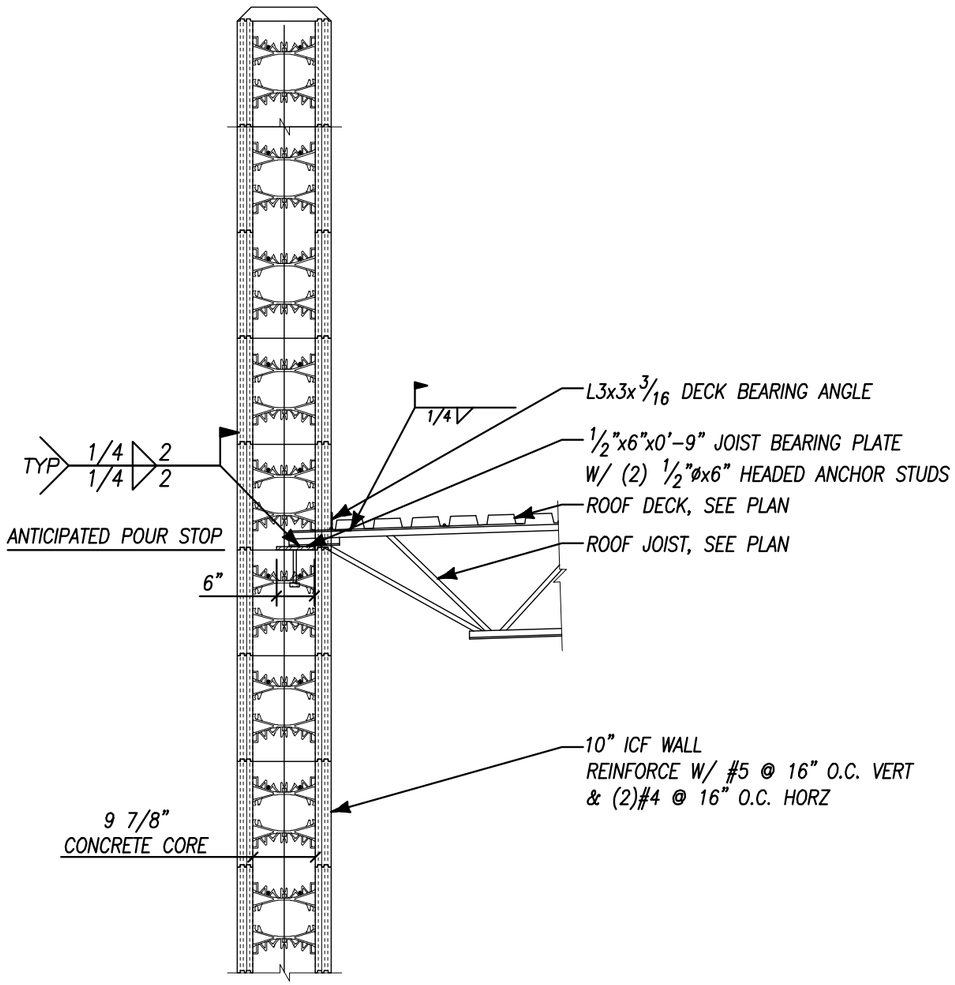
ISSUE / REVISIONS:
11/30/07 DFCM REVIEW
CDD 1/2/08

TITLE: STORAGE LEVEL FRAMING DETAILS
DATE: DATE
DRAWN BY: CGN
PROJECT NO.: DFC 0713

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

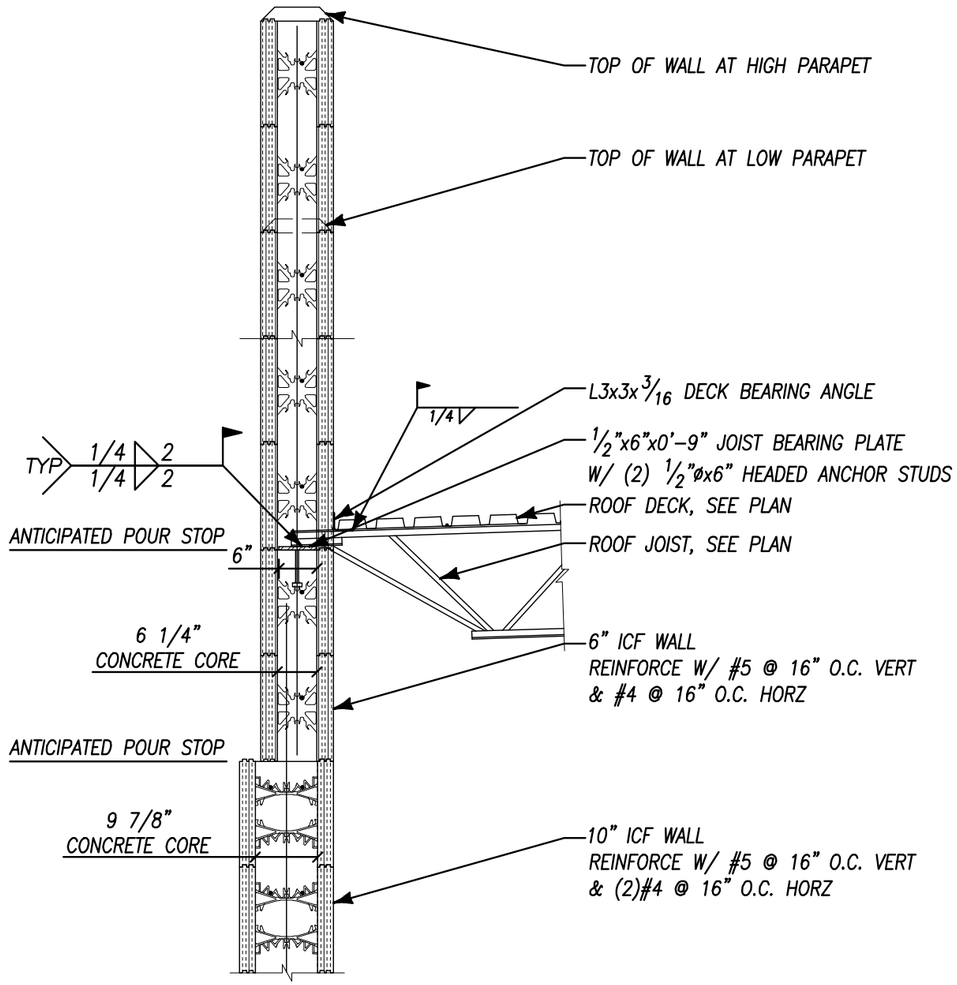
JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET:
S3.2.1



2 ROOF FRAMING DETAIL

SCALE : 1/2" = 1'-0" 1143_dt_007



1 ROOF FRAMING DETAIL

SCALE : 1/2" = 1'-0" 1143_dt_006

ISSUE / REVISIONS:
11/30/07 DFCM REVIEW
CDD 1/2/08

TITLE: ROOF FRAMING DETAILS

DRAWN BY: CGN

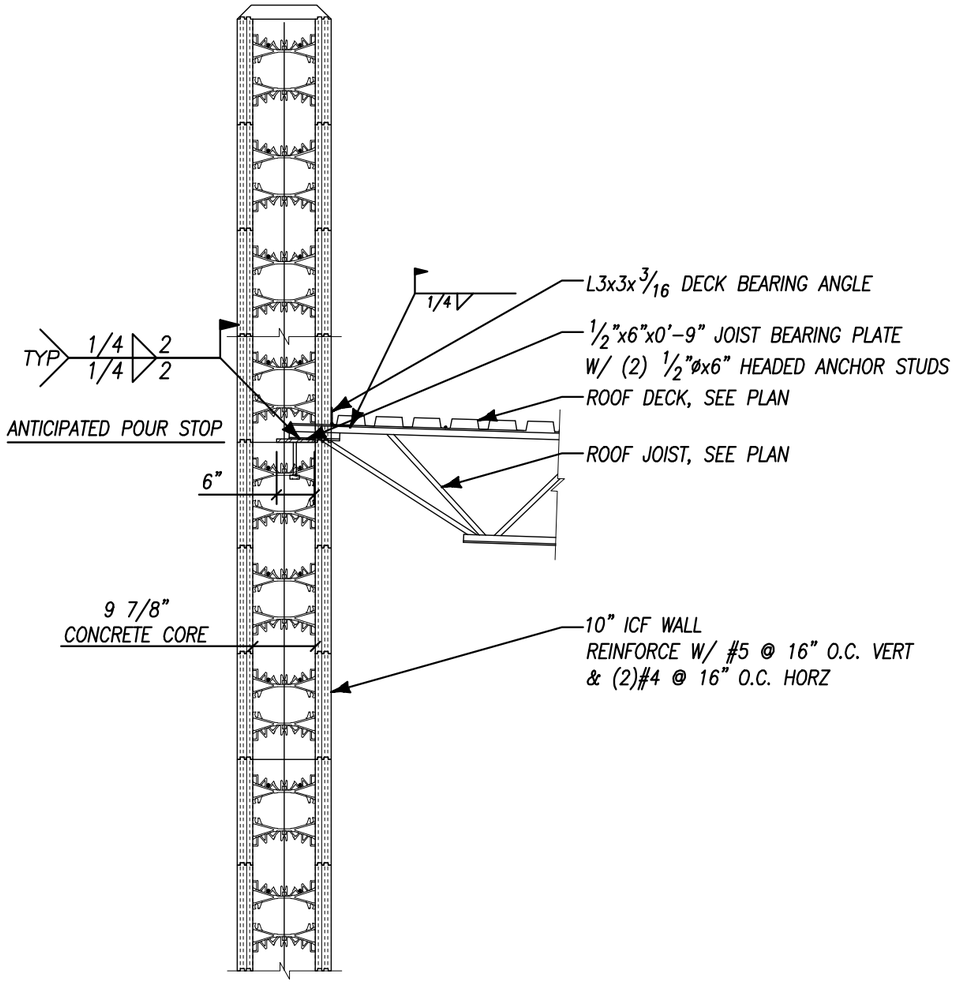
PROJECT NO.: DFC 0713

DATE: DATE

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

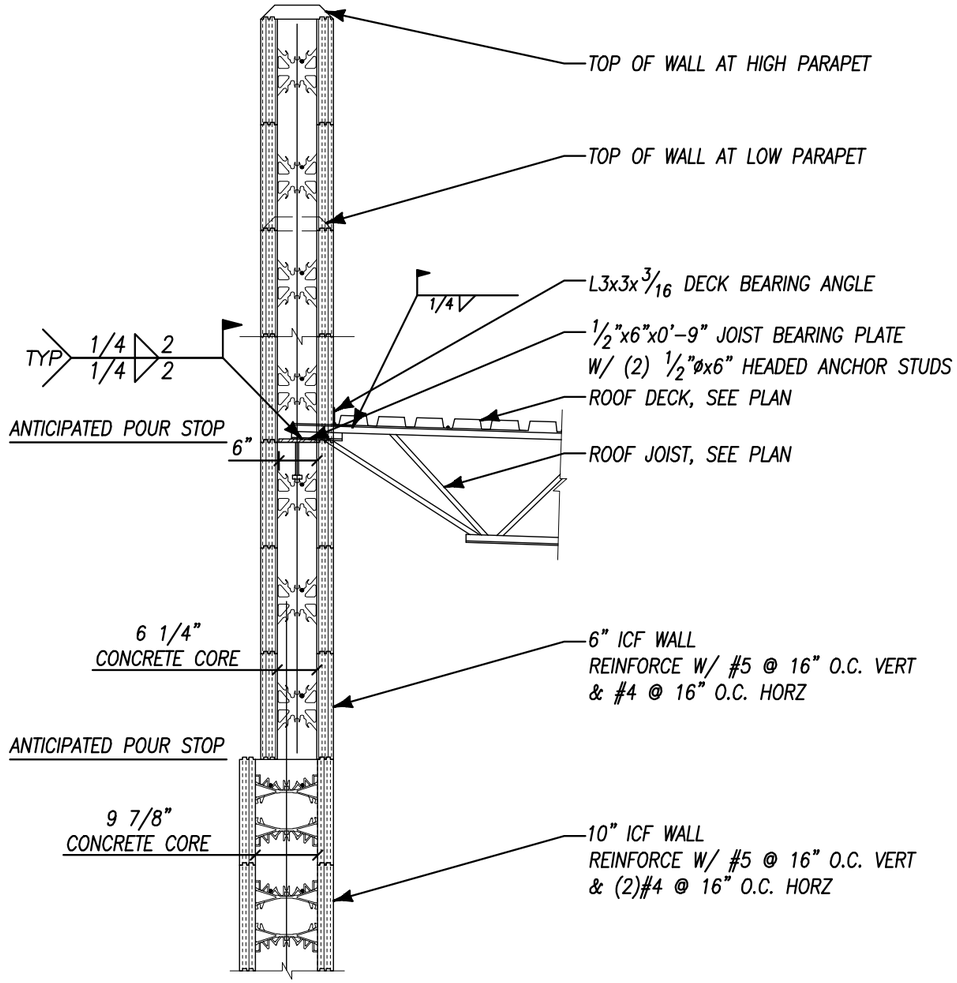
JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.359.1155 PHONE / FAX

SHEET:
S3.3.1



2 ROOF FRAMING DETAIL

SCALE : 1/2" = 1'-0" 1143_dt_009



1 ROOF FRAMING DETAIL

SCALE : 1/2" = 1'-0" 1143_dt_008

ISSUE / REVISIONS:
11/30/07 DFCM REVIEW
CDD 1/2/08

TITLE: ROOF FRAMING DETAILS

DRAWN BY: CGN

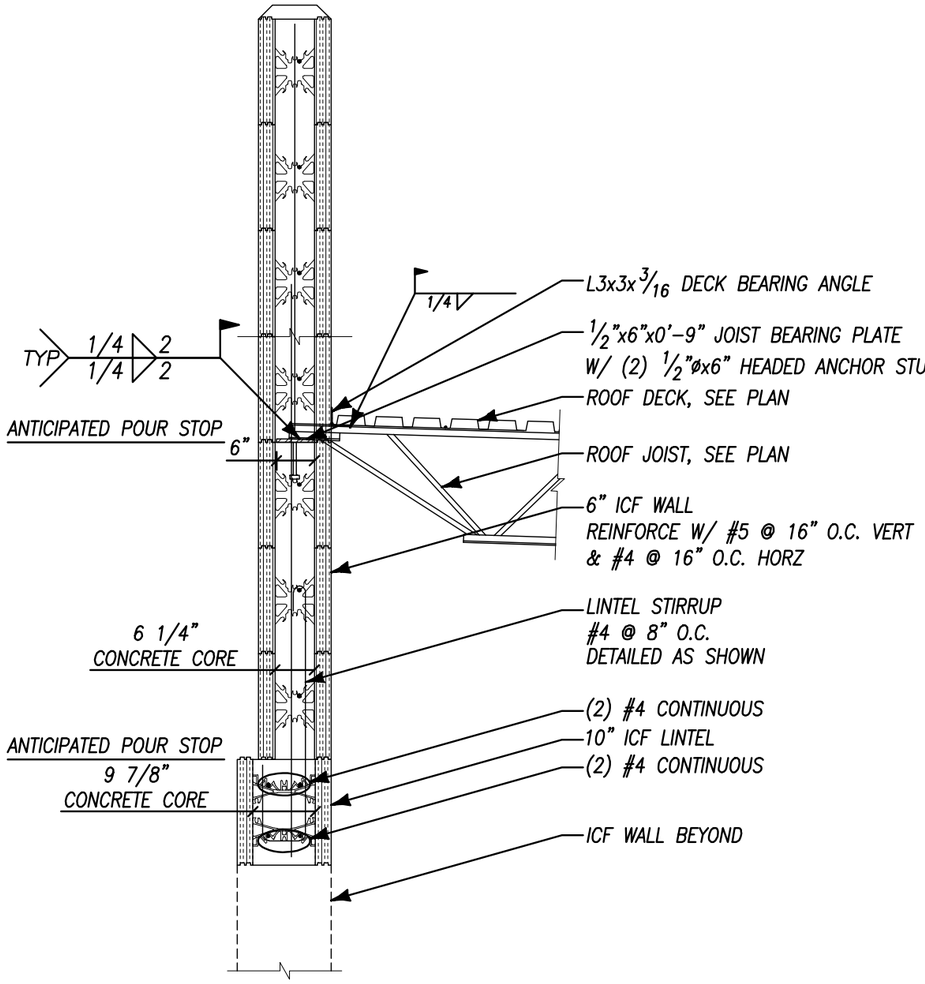
PROJECT NO.: DFC 0713

DATE: DATE

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

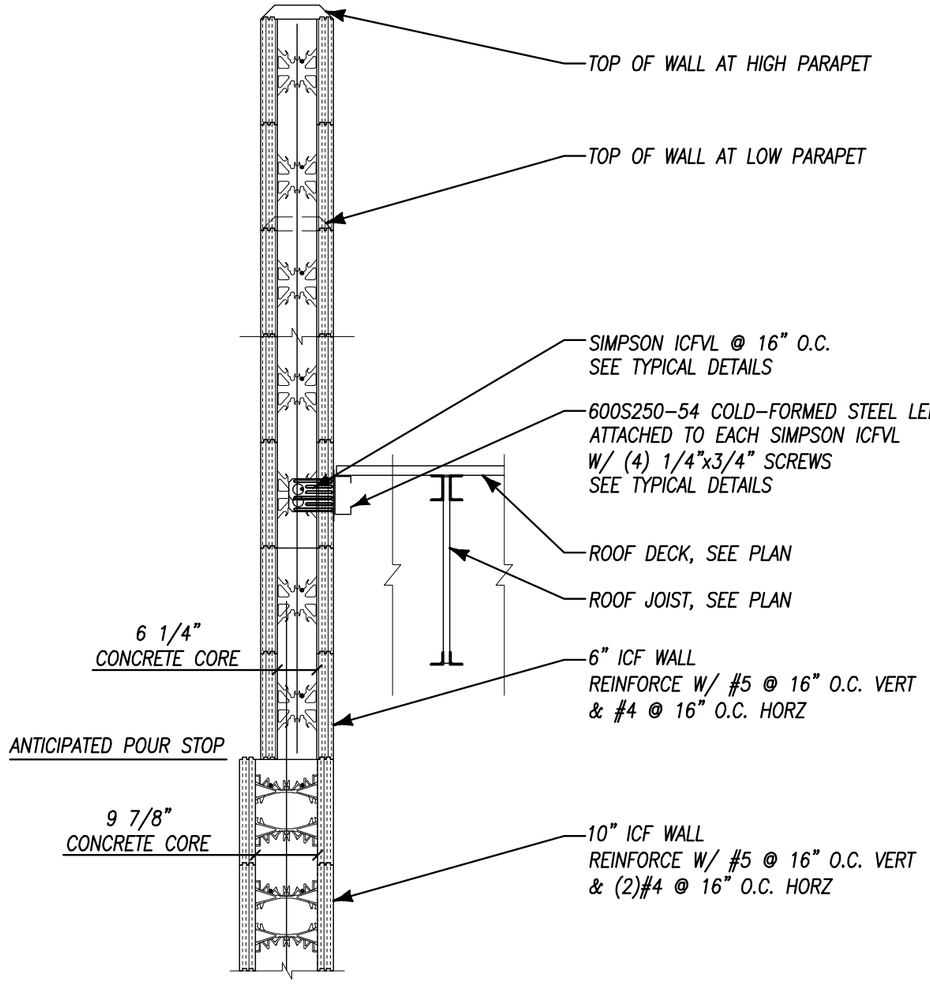
JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET:
S3.3.2



2 CONCRETE LINTEL

SCALE : 1/2" = 1'-0" 1143_dt_011



1 ROOF FRAMING DETAIL

SCALE : 1/2" = 1'-0" 1143_dt_010

ISSUE / REVISIONS:
11/30/07 DFCM REVIEW
CDD 1/2/08

TITLE: ROOF FRAMING DETAILS

DRAWN BY: CGN

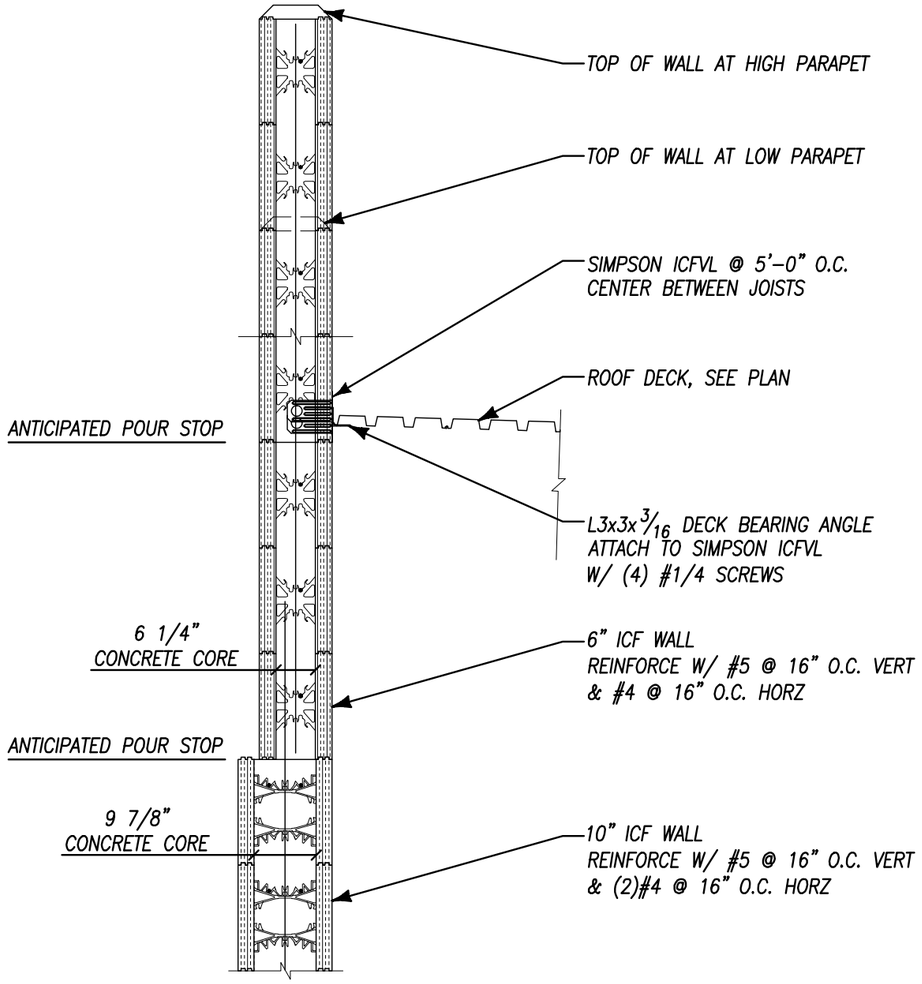
PROJECT NO.: DFC 0713

DATE: DATE

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

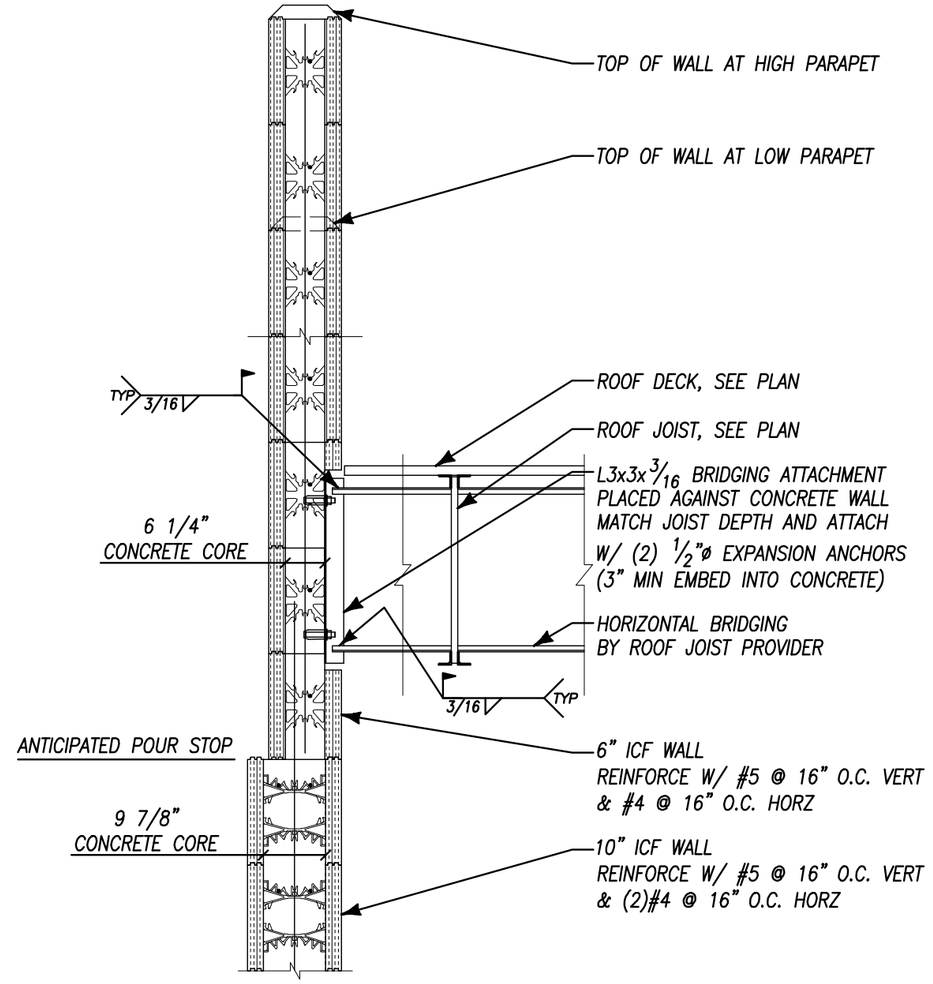
JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET:
S3.3.3



2 ROOF FRAMING DETAIL

SCALE : 1/2" = 1'-0" 1143_dt_018



1 ROOF FRAMING DETAIL

SCALE : 1/2" = 1'-0" 1143_dt_014

ISSUE / REVISIONS:
11/30/07 DFCM REVIEW
CDD 1/2/08

TITLE: ROOF FRAMING DETAILS

DRAWN BY: CGN

PROJECT NO.: DFC 0713

DATE: DATE

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET:
S3.3.4

PLUMBING SPECIFICATIONS

15055 – BASIC PIPING MATERIALS AND METHODS

1. CORE CUT ALL PIPE PENETRATION OF EXISTING MASONRY OR CONCRETE WALLS AND FLOORS. SLEEVE ALL PENETRATIONS THROUGH NEW WALLS AND FLOORS. SEAL ALL PENETRATIONS WATER TIGHT WITH SILICONE SEALANT. USE FIRE RATED SEALANT (3M "FIRE BARRIER" OR EQUAL) FOR 1 HOUR OR 2 HOUR PENETRATIONS.
2. CAULK AROUND ALL PIPING THAT PASSES THROUGH FIRE–RATED PARTITIONS WITH A NON–HARDENING CAULKING SIMILAR TO 3M "FIRE BARRIER".
3. SEAL ALL PIPING THROUGH WALLS AIR TIGHT.

15242 – VIBRATION ISOLATION AND SEISMIC

1. ALL PLUMBING EQUIPMENT AND PIPING MUST BE VIBRATION ISOLATED AND SEISMICALLY BRACED FOR THE SITE SPECIFIC SEISMIC DESIGN CATEGORY AND SEISMIC USE GROUP, IN ACCORDANCE WITH THE LATEST ADOPTED EDITIONS OF THE BUILDING CODES AND ASHRAE. PROVIDE SEISMIC PRODUCTS BY AMBER–BOOTH OR MASON INDUSTRIES.
2. IN GENERAL, PROVIDE SPRING MOUNTS TO ATTENUATE LOW FREQUENCY SOUND AND VIBRATION. PROVIDE NEOPRENE PADS TO ATTENUATE HIGH FREQUENCY SOUND
3. CONTRACTOR MANUFACTURED SEISMIC BRACING/RESTRAINT METHODS ARE NOT ACCEPTABLE.

15250 – INSULATION

1. PIPE INSULATION: SNAP–ON GLASS FIBER TYPE WITH VAPOR JACKET. SEAL ALL ENDS AND JOINTS TO PROVIDE A COMPLETELY SEALED SYSTEM. ALTERNATIVELY, FOR INTERIOR WATER PIPING, USE FLEXIBLE UNICELLULAR ASTM 534 TYPE 1 INSULATION. USE 1" THICKNESS FOR PIPE UP TO 2"ø AND 1–1/2" FOR PIPE OVER 2"ø
2. PROVIDE ADA COMPLIANT FIXTURES WITH SNAP ON ADA ARTICLE 4.19 22FF COMPLIANT WHITE INSULATION. TRUEBRO LAV GUARD, BASIN GUARD OR LAV SHIELD.

15411 – WATER DISTRIBUTION PIPING

1. UNDERGROUND WATER PIPING:

   2–1/2" AND LARGER:
   PVC AWWA 900 CLASS 100 WITH SOLVENT CEMENTED JOINTS, OR PB PLASTIC PIPE ASTM D3309 SDR 11 WITH HEAT FUSION JOINTS.
2. NO TYPE "M" OR "DWV" COPPER IS TO BE USED IN THIS PROJECT.
3. ALL ABOVE GROUND HOT AND COLD WATER PIPING:
   ASTM B 88 TYPE "L" COPPER, WITH WROUGHT COPPER FITTINGS AND SOLDERED WITH 95–5 TIN–ANTIMONY SOLDER.
4. INSTALL PIPE HANGERS WITH THE FOLLOWING MINIMUM ROD SIZES AND MAXIMUM SPACING. UPON COMPLETION OF HANGER INSTALLATION, ALL ADJUSTMENTS HAVING THE POSSIBILITY OF TURNING SHALL BE LOCKED SECURELY IN PLACE BY DOUBLE NUTTING AT THE HANGER ROD ATTACHMENT TO THE STRUCTURE, AND AT THE PIPE HANGER.

NOM. PIPE SIZE–INCHES	MAX SPAN–FT.	MIN. ROD SIZE–INCHES
1	7	3/8
1–1/2	9	3/8
2	10	3/8
3	12	1/2
4	14	5/8
6	17	3/4

5. ALL PIPE HANGERS AND EQUIPMENT SUPPORTS SHALL BE LOCATED A MINIMUM DISTANCE OF 2" FROM ANY REFRIGERANT PIPE.
6. ALL PLUMBING FIXTURES CONNECTED TO A POTABLE WATER SYSTEM WITH HOSE CONNECTIONS ON THE OUTLET SIDE AND OWNER FURNISHED EQUIPMENT WITH DIRECT CONNECTIONS, SHALL BE PROVIDED WITH BACKFLOW PREVENTION.

PLUMBING SPECIFICATIONS

15420 – DRAINAGE AND VENT SYSTEMS

1. UNDERGROUND BUILDING DRAIN PIPE AND FITTINGS:
   A. NO HUB ABS OR PVC PLASTIC PIPE AND FITTINGS PER ASTM D2661 WITH ASTM D2235 SOLVENT OR
   B. ASTM A74 SERVICE WEIGHT, HUB AND SPIGOT CAST IRON SOIL PIPE, OR ASTM A888 (OR CISPI 301) HUBLESS CAST IRON SOIL PIPE WITH ASTM C564 HEAVY DUTY SHIELDED STAINLESS STEEL COUPLINGS.
   C. NO ASTM D2729 PIPE SHALL USED UNDERGROUND.
2. ALL SANITARY DRAINAGE AND VENT PIPING SHALL BE NO HUB SERVICE WEIGHT CAST IRON COUPLED PIPE AND FITTINGS WITH COMPRESSION TYPE NEOPRENE GASKETS AND STAINLESS STEEL BANDS. ASTM B306 COPPER PIPE MAY BE USED WITH SOLDERED JOINTS FOR PIPE 3" AND SMALLER.
3. INSTALL SANITARY DRAIN LINES 2–1/2" AND LESS WITH A SLOPE OF 2%. INSTALL SANITARY DRAIN LINES 3"–6" WITH A SLOPE OF NOT LESS THAN 1%.
4. CLEANOUTS:
   A. FINISHED WALL CLEANOUTS: SMITH FIGURE 4472 COMPLETE WITH CAST BRONZE TAPER THREADED PLUG, STAINLESS STEEL COVER AND SCREW.
   B. FLOOR CLEANOUTS (UNFINISHED AREAS): SMITH FIGURE 4223 DUCO CAST IRON CLEANOUT WITH ROUND ADJUSTABLE SCORIATED SECURED CAST IRON TOP, TAPER THREADED BRONZE PLUG AND SPIGOT OUTLET.
   C. FINISHED FLOOR CLEANOUTS (CONCRETE FLOORS): SMITH FIGURE 4023 DUCO CAST IRON CLEANOUT WITH ADJUSTABLE SCORIATED SECURED NICKEL BRONZE TOP, TAPER THREADED CAST BRONZE PLUG AND SPIGOT OUTLET.
   D. FINISHED FLOOR CLEANOUTS (CARPETED FLOORS): SMITH FIGURE 4023–Y SAME AS CONCRETE FLOORS WITH CARPET MARKER.
   E. FINISHED FLOOR CLEANOUTS (TILE FLOORS): SMITH FIGURE 4163 DUCO CAST IRON CLEANOUT WITH SQUARE ADJUSTABLE SECURED NICKEL BRONZE TOP WITH 1/8" RECESS, TAPER THREADED BRONZE PLUG AND SPIGOT OUTLET.
   F. EXTERIOR CLEANOUTS (CLEANOUT TO GRADE): SMITH FIGURE 4253 DUCO CAST IRON CLEANOUT AND DOUBLE FLANGED HOUSING WITH HEAVY DUTY SECURED SCORIATED CAST IRON COVER WITH LIFTING DEVICE, TAPER THREADED BRONZE PLUG AND SPIGOT OUTLET.
5. FLOOR DRAINS:
   D–1 FLOOR DRAIN: SMITH FIGURE 2010–BP CAST IRON BODY AND FLASHING COLLAR WITH PROTECTIVE CAP AND SQUARE NICKEL BRONZE ADJUSTABLE STRAINER HEAD WITH SECURED SQUARE HOLE GRATE, AND TRAP PRIMER CONNECTION.
   D–2 MECHANICAL ROOM DRAIN: SMITH FIGURE 2110–NB MEDIUM DUTY FLOOR DRAIN. CAST IRON BODY AND FLASHING COLLAR WITH NICKEL BRONZE BAR GRATE.
   FS–1 FLOOR SINK: CAST IRON FLANGED RECEPTOR WITH RESISTANT COATED INTERIOR, 1/2 GRATE OF NICKEL BRONZE MATERIAL, ALUMINUM DOME BOTTOM STRAINER. 2" W, 1–1/2" V. JR SMITH MODEL 3140–12.
6. ALL ROOF DRAIN LINES SHALL BE SERVICE WEIGHT CAST IRON PIPE TO CISPI STANDARD 301.
7. ALL ROOF DRAIN LINES AND UNDERSIDE OF ROOF DRAIN BODIES SHALL BE FULLY INSULATED.
8. OVERFLOW ROOF DRAINS SHALL DAYLIGHT 18" ABOVE THE SURROUNDING HORIZONTAL AREA.
9. ROOF DRAINS
   RD–1 ROOF DRAIN: SMITH FIGURE 1010–ERC CAST IRON BODY WITH COMBINED FLASHING CLAMP AND CAST IRON GRAVEL STOP, CAST IRON DOME, EXTENSION, SUMP RECEIVER AND UNDERDECK CLAMP.
   RD–2 OVERFLOW ROOF DRAIN: SMITH FIGURE 1080–ERC CAST IRON BODY WITH FLASHING CLAMP, GRAVEL STOP, CAST IRON DOME, 2" HIGH CAST IRON WATER COLLAR, EXTENSION, SUMP RECEIVER AND UNDERDECK CLAMP.
   RD–3 DOWNSPOUT NOZZLE: SMITH FIGURE 1770 DOWNSPOUT NOZZLE. CAST BRONZE BODY AND FLANGE. PROVIDE BRONZE BOLTS TO SECURE NOZZLE TO WALL.

15460 – WATER HEATERS

1. INSTALL UNITS PLUMB AND LEVEL AND FIRMLY ANCHORED PER SEISMIC REQUIREMENTS. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES. ORIENT SO CONTROLS AND DEVICES NEEDING SERVICING ARE ACCESSIBLE.
2. CONNECT HOT AND COLD WATER PIPING TO UNITS WITH SHUT–OFF VALVES AND UNIONS. CONNECT HOT WATER CIRCULATING PIPING TO UNIT WITH SHUT–OFF VALVE, CHECK VALVE AND UNION.
3. USE DIELECTRIC FITTINGS AND UNIONS WHERE PIPING CONNECTIONS ARE DISSIMILAR METALS.
4. INSTALL VACUUM RELIEF VALVE IN COLD WATER INLET PIPING. EXTEND RELIEF VALVE DISCHARGE TO CLOSEST FLOOR DRAIN. INSTALL DRAIN AS INDIRECT WASTE TO SPILL INTO OPEN DRAIN OR OVER FLOOR DRAIN.
5. PROVIDE AND INSTALL EXPANSION TANK: DIAPHRAGM TYPE, PRE– PRESSURIZED STEEL TANK WITH RELIEF VALVE SETTING @ 120 PSI MAXIMUM PRESSURE.
6. CONNECT GAS SUPPLY PIPING TO BURNER WITH DRIP LEG, TEE, GAS COCK, AND UNION, MINIMUM SIZE SAME AS INLET CONNECTION. INSTALL GAS PRESSURE REGULATORS WHERE INDICATED.

PLUMBING SPECIFICATIONS

15460 – WATER HEATERS

7. ELECTRICAL CONNECTIONS: POWER WIRING AND DISCONNECT SWITCHES ARE SPECIFIED IN DIVISION 16. CONNECT UNIT COMPONENTS TO GROUND IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
8. VENT CONNECTIONS: CONNECT GAS FIRED WATER HEATER DRAFT HOOD TO VENT SYSTEM. UNLESS OTHERWISE INDICATED, PROVIDE VENT SAME SIZE AS OUTLET ON HEATER. COMPLY WITH GAS UTILITY REQUIREMENTS.
9. PROVIDE CONCENTRIC VENT TERMINATION KIT FOR ROOF OR WALL APPLICATIONS.
10. PROVIDE PVC COMBUSTION AIR AND VENT PIPING FROM WATER HEATER TO TERMINATION KIT.
11. PROVIDE CONDENSATE DRAIN FROM WATER HEATER OR VENT AS REQUIRED.

15440 – PLUMBING FIXTURES

1. PROVIDE AND INSTALL CARRIERS AS REQUIRED FOR FLOOR OR WALL MOUNTED PLUMBING FIXTURES. INSTALL ALL FIXTURES WITH ACCESSORIES AS REQUIRED TO PROVIDE A COMPLETE, WORKABLE INSTALLATION.
2. PLUMBING FIXTURES SHALL INCLUDE COMPRESSION STOPS ABOVE FLOOR IN SUPPLIES TO ALL FIXTURES AND A MINIMUM 17 GAUGE P–TRAP.
3. ALL LAVATORIES AND HAND SINKS WILL HAVE A COMBINATION FAUCET OR PREMIXING FAUCET CAPABLE OF SUPPLYING WARM WATER FOR A MINIMUM OF 10 SECONDS.
4. ALL JANITORIAL SINK FAUCETS MUST BE PROVIDED WITH AN APPROVED BACKFLOW PREVENTION DEVICE.
5. FLOOR DRAINS AND FLOOR SINKS ARE SHOWN IN THE APPROXIMATE LOCATION. COORDINATE FINAL LOCATION WITH EQUIPMENT AND DRAINAGE REQUIREMENTS. PROVIDE BLOCKOUTS AS NECESSARY.
6. FIXTURE SCHEDULE:

SS–1 MOP SINK: KOHLER K–6710 WHITBY ENAMELED CAST IRON CORNER SERVICE SINK; K–8940 COATED WIRE RIM GUARD; K–9146 STRAINER; 3" CAST IRON "P" TRAP; CHICAGO NO. 897 COMBINATION SERVICE SINK FITTING WITH VACUUM BREAKER, 3/4" HOSE THREAD AND PAIL HOOK ON SPOUT, NO. 369 HANDLES, WALL BRACE AND NO. R 1/2" FLANGED FEMALE ADJUSTABLE ARMS WITH INTEGRAL STOPS. POLISHED CHROME PLATED FINISH. PROVIDE 5'–0" OF 3/8" DIAMETER WHITE RUBBER HOSE ON SPOUT OUTLET AND CHROME PLATED WALL HOOK.

L–1 ACCESSIBLE LAVATORY: KOHLER K–2006 KINGSTON 21" X 18" VITREOUS CHINA, WALL HUNG LAVATORY WITH 8" FAUCET CENTERS, DRILLING FOR FLOOR MOUNTED CARRIERS WITH CONCEALED ARM BRACKETS; K–7715 OPEN GRID STRAINER; CHICAGO NO. 785–E3 HI–LITE QUATURN FITTING WITH NO. 317 4" WRIST BLADE HANDLES AND NO. GN–1A–E3 RIGID GOOSENECK SPOUT WITH E–3 AERATOR. WASTE 2" TRAP 1¼" VENT 2" HW s" CW s". PROVIDE POWERS SERIES 480 THERMOSTATIC MIXING VALVE MEETING ASSE 1016 ON THE HOT WATER SUPPLY TO THE FIXTURE. SET THE HOT WATER TEMPERATURE AT 110°F.

U–1 URINAL: KOHLER K–4972–T STANWELL WATER–GUARD VITREOUS CHINA BLOWOUT ACTION URINAL WITH 1–1/4" TOP SPUD INLET AND 2" I.P.S. OUTLET. SLOAN 180 FLUSH VALVE. WASTE 3" VENT 2" CW s"

WC–1 ACCESSIBLE WATER CLOSET: KOHLER K–4368 HIGHCLIFF LITE VITREOUS CHINA FLOOR MOUNTED SIPHON JET ELONGATED TOILET WITH 2–1/4" PASSAGEWAY, 1–1/2" TOP SPUD, (2) 52048 BOLT CAPS; SLOAN 111 FLUSH VALVE; 1.6 GALLON FLUSH. ACTUATOR SHALL BE ON WIDE SIDE OF STALL. WASTE 3" VENT 3" CW 1¼".

SH–1 BEST BATH ALL–IN–ONE–MOBILITY MODEL LSS3838A5T SMOOTH WALL ACCESSIBLE SHOWER. 38" WIDE x 38" DEEP WITH 0.5" BULL–NOSED THRESHOLD AND WITH THE FOLLOWING FACTORY–INSTALLED ACCESSORIES: CURTAIN, GRAB–BARS, FOLDING SEAT, PRESSURE–BALANCED MIXING VALVE WITH LEVER HANDLE, VACUUM BREAKER AND SOAP DISH. PROVIDE MATCHING SHOWER HEAD AND INSTALL ON SUPPLY ELBOW. INSTALL SHOWER AND FLOOR DRAIN D–1.

EEW–1 EMERGENCY EYE WASH: WALL MOUNTED, ANSI Z358.1–2004, BRADLEY S19–240 WITH SPEAKMAN SE–370 MIXING VALVE ASSEMBLY.

EWC–1 WATER COOLER: OASIS MODEL P8AMSL WALL MOUNTED BARRIER FREE SPLIT LEVEL WATER COOLER. STAINLESS STEEL TOP, GALVANIZED STEEL FRAME AND PANELS WITH POWDER COATED PAINT; COOLER SHALL DELIVER 8.0 GPH OF 50°F DRINKING WATER WITH 80°F INLET TEMPERATURE AND 90°F ROOM TEMPERATURE. WASTE 2" TRAP 1¼" VENT 2" CW s"

15484 – COMPRESSED AIR SYSTEMS

1. PROVIDE SCHEDULE 40 SEAMLESS ASTM A120 BLACK STEEL PIPE BETWEEN AIR COMPRESSOR AND AIR OUTLETS THREADED FOR 2" AND SMALLER. WELDED FOR 2–1/2" AND LARGER.
2. PROVIDE ASTM A216 CLASS 300 GATE VALVES FOR LINE SHUTOFF.
3. PROVIDE MILTON 1/2" G–STYLE (OR OTHER TYPE, AS SELECTED BY USER) QUICK CONNECT COUPLINGS AT AIR OUTLETS.
4. INSTALL SHUTOFF COCK IN UPSTREAM LINE WITHIN 6" OF AIR OUTLET.

GENERAL PLUMBING NOTES (CONT)

23. LOCATE ALL PLUMBING VENTS AT LEAST 3 FEET ABOVE OR 10 FEET AWAY FROM ALL OUTSIDE AIR INTAKES INTO THE BUILDING.
24. SEE "PLUMBING FIXTURE SCHEDULE" FOR FIXTURE MAKE AND TYPE, AND SIZE OF INDIVIDUAL WASTE, VENT, AND DOMESTIC WATER PIPING TO FIXTURES.
25. ALL PLUMBING EQUIPMENT SHALL BE LISTED AND LABELED BY AN APPROVED TESTING AGENCY.
26. EQUIPMENT AND INSTALLATION SHALL MEET NATIONAL SANITATION FOUNDATION (NSF) STANDARDS, OR EQUIVALENT.
27. PROVIDE PROPER PROVISIONS FOR EXPANSION OR MOVEMENT OF ALL PIPING.
28. ALL PIPE SHALL BE SECURED BY DOUBLE NUTTING AT THE HANGER ROD ATTACHMENT TO THE STRUCTURE, AND AT THE PIPE HANGER.
29. PROVIDE WATER HAMMER ARRESTORS (SHOCK ABSORBERS) AT ALL PIPE LOCATIONS WHERE VALVE CLOSURES (SUCH AS FLUSH VALVES) MAY CAUSE WATER HAMMER OR RESULT IN EXCESSIVE PIPE VIBRATION OR MOVEMENT.
30. PROPERLY LUBRICATE ALL PIECES OF EQUIPMENT BEFORE TURNING THE SYSTEM OVER TO THE OWNER.
31. PREPARE 6 COPIES OF SUBMITTALS IN AN INDEXED, LABELED FOLDER CONTAINING FULL PERFORMANCE, MATERIAL AND INSTALLATION INFORMATION ABOUT ALL EQUIPMENT, PIPING, COMPONENTS AND ACCESSORIES TO BE USED. SUBMITTALS WILL BE CHECKED AT MOST TWICE. TIME SPENT ON SUBSEQUENT SUBMITTALS WILL BE BILLED TO THE CONTRACTOR BY THE ENGINEER AT ITS CURRENT HOURLY RATES.
32. TWO OPERATING AND MAINTENANCE MANUALS SHALL BE PROVIDED IN HARD BACK LOOSE LEAF BINDERS. MANUALS SHALL CONTAIN PRODUCT CUT SHEETS AND OPERATING AND MAINTENANCE INSTRUCTIONS ON ALL EQUIPMENT, ACCESSORIES, FIXTURES, VALVES, ETC., PROVIDED FOR THE PROJECT.
33. UPON COMPLETION OF THE WORK, REMOVE ALL SURPLUS MATERIALS AND RUBBISH. MAKE ALL REQUIRED PATCHING AND REPAIRS OF OTHER TRADES' WORK DAMAGED BY THE PLUMBING CONTRACTOR, AND LEAVE THE PREMISES IN A CLEAN, ORDERLY CONDITION.
34. THE PLUMBING CONTRACTOR SHALL OPERATE THE SYSTEM AND DEMONSTRATE ALL ASPECTS TO THE ENGINEER AND/OR OWNER, TO PROVE IT'S OPERATION.
35. THE PLUMBING CONTRACTOR SHALL GUARANTEE THE PLUMBING SYSTEM FOR A PERIOD OF ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.
36. THE PLUMBING CONTRACTOR SHALL, DURING CONSTRUCTION, MAINTAIN A SET OF AS–BUILT REDLINED RECORD DRAWINGS AT THE PROJECT SITE. ALL CHANGES IN LAYOUT, ROUTING, EQUIPMENT, COMPONENTS, AND ACCESSORIES SHALL BE RECORDED. THESE REDLINES SHALL BE GIVEN TO THE ARCHITECT/ENGINEER AFTER THE FINAL INSPECTION.

PLUMBING SPECIFICATIONS

15488 – PROPANE GAS SYSTEMS

1. PROPANE GAS PIPING ABOVE GROUND OR INSIDE BUILDINGS: SCHEDULE 40 BLACK STEEL WITH WELDED OR MALLEABLE IRON FITTINGS.
2. GAS MAINS INSIDE BUILDINGS ARE SIZED FOR 2 PSIG PRESSURE. LOCATE PRESSURE REGULATORS AS SHOWN ON THE DRAWINGS TO REDUCE PRESSURE FROM 2 PSIG TO 7" W.C. PROVIDE FULL SIZE VENT LINES FROM GAS PRESSURE REGULATORS AND EXTEND TO OUTSIDE OR THROUGH ROOF. FLASH PENETRATIONS AND MAKE WATER TIGHT.
3. PROVIDE GAS SHUT OFF VALVE AT EACH PIECE OF GAS UTILIZING EQUIPMENT.
4. THE EQUIPMENT INSTALLER SHALL APPLY AND SIGN A CERTIFICATION LABEL TO EACH GAS–FIRED APPLIANCE, STATING THE APPLIANCE HAS BEEN ADJUSTED OR MODIFIED PER MANUFACTURER'S REQUIREMENTS FOR OPERATION AT THE PROJECT ALTITUDE AND WITH THE BTU–CONTENT OF THE AVAILABLE FUEL–GAS.

PLUMBING SHEET INDEX

GENERAL PLUMBING NOTES

1. PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO CONSTRUCT A COMPLETE, OPERATIONAL PLUMBING SYSTEM FOR THE ENTIRE PROJECT AS SHOWN ON THESE DRAWINGS, INCLUDING ALL NECESSARY FEES AND PERMITS.
2. THE ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE MOST RECENTLY ADOPTED BUILDING CODE, MECHANICAL CODE, PLUMBING CODE, ELECTRICAL CODE, AND ALL OTHER APPLICABLE CITY, COUNTY, STATE, AND FEDERAL CODES AND REGULATIONS IN EFFECT AT THE DATE OF THE BID. CONFORM TO ANY CODES, RULES, REGULATIONS AND REQUIREMENTS THAT THE PROJECT OWNER HAS.
3. PRIOR TO FABRICATION AND INSTALLATION, THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL PLUMBING WORK WITH ALL OTHER TRADES, INCLUDING BUT NOT LIMITED TO: THE MECHANICAL CONTRACTOR, ELECTRICAL CONTRACTOR, GENERAL CONTRACTOR, AND ANY CONTRACTOR HIRED DIRECTLY BY THE OWNER. WHERE CONFLICTS MAY OCCUR, THEY SHALL BE RESOLVED PRIOR TO INSTALLATION.
4. THE DRAWINGS SHOW THE GENERAL DESIGN, ARRANGEMENTS AND THE EXTENT OF THE SYSTEM. IT SHALL BE THE WORK OF THE CONTRACTOR TO MAKE SUCH SLIGHT ALTERATIONS AS MAY BE NECESSARY TO MAKE THE SYSTEM COMPLETE AND OPERATIONAL IN ACCORDANCE WITH THE DESIGN INTENT. MAJOR DEVIATIONS SUCH AS CHANGES IN COMPONENT SIZES, WEIGHTS, QUANTITIES, OR MATERIAL REQUIRE PRIOR APPROVAL BY THE CONSULTING ENGINEER.
5. ALL PLUMBING INFORMATION IS NOT SHOWN ON THE PLUMBING DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENTS INCLUDING ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS.
6. THE WORKING DRAWINGS ARE DIAGRAMMATIC. BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, THEY DO NOT SHOW EVERY OFFSET, BEND OR ELBOW NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. ALL LOCATIONS FOR PLUMBING EQUIPMENT AND PIPING SHALL BE CHECKED AND COORDINATED WITH THE ARCHITECTURAL, MECHANICAL, STRUCTURAL AND ELECTRICAL DRAWINGS.
7. EXACT ROUTING OF WASTE, GAS, AND WATER SERVICE IS DEPENDENT ON LOCAL SITE CONDITIONS AND MODIFICATIONS IN EQUIPMENT CONNECTIONS. EXACT LOCATION OF EQUIPMENT MAY VARY DEPENDING ON LOCAL CODE, HEALTH DEPARTMENT AND CITY REQUIREMENTS.
8. DETAILS: THE CONTRACTOR IS RESPONSIBLE TO REVIEW AND USE WHERE APPROPRIATE ALL OF THE PLUMBING DETAILS SHOWN ON THE DRAWINGS. DETAILS MAY OR MAY NOT BE CALLED OUT ON THE DRAWINGS WITH SYMBOLS OR KEYED NOTES. ANY CHANGES RESULTING FROM FAILURE TO INSTALL THE PLUMBING SYSTEM WITHOUT USING THE INCLUDED DETAILS IS THE RESPONSIBILITY OF THE CONTRACTOR.
9. PIPING SCHEMATICS: THE CONTRACTOR IS RESPONSIBLE TO REVIEW THE PIPING SCHEMATICS INCLUDED WITH THE DRAWINGS FOR PIPING CONNECTIONS TO ALL PLUMBING EQUIPMENT. THE PIPING SCHEMATICS SHOW DETAILED CONNECTIONS INCLUDING NECESSARY VALVES, FITTINGS, PRESSURE AND TEMPERATURE GAUGES, ETC., THAT ARE NOT SHOWN ON THE PIPING PLANS. ANY CHANGES RESULTING FROM FAILURE TO INSTALL THE PLUMBING SYSTEM WITHOUT USING THE INCLUDED PIPING SCHEMATICS IS THE RESPONSIBILITY OF THE CONTRACTOR.
10. THE DRAWINGS AND SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER AND THEY SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH THE ITEMS SHOWN ON ONE AND NOT THE OTHER BEING FURNISHED AND INSTALLED AS THOUGH SHOWN AND CALLED OUT IN BOTH.
11. THE STRUCTURE SHOWN ON ALL DETAILS MAY OR MAY NOT PERTAIN TO A PORTION OR ANY PORTION OF THE BUILDING. COORDINATE MOUNTING REQUIREMENTS WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS.
12. ANY PART OF THIS INSTALLATION THAT FAILS, IS UNFIT, OR BECOMES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
13. EQUIPMENT MODEL NUMBERS IN SCHEDULES ARE SHOWN TO ESTABLISH THE TYPE OF PRODUCT THAT HAS TO BE USED. THE SELECTED PRODUCT MUST MEET THE SCHEDULED PERFORMANCE DATA. THIS MAY REQUIRE A DIFFERENT MODEL NUMBER TO THAT SCHEDULED.
14. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL FITTINGS, TRANSITIONS, VALVES, AND OTHER DEVICES AND ACCESSORIES REQUIRED FOR A COMPLETE, WORKABLE INSTALLATION.
15. THE DIVISION 15 CONTRACTOR SHALL PROVIDE ALL REQUIRED MOTORS. ALL MOTOR STARTING EQUIPMENT, WHEN NOT A PART OF THE PLUMBING EQUIPMENT, WILL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
16. THE CONTRACTOR SHALL PERFORM THE WORK IN A MANNER THAT WILL CAUSE A MINIMUM DISRUPTION TO BUILDING TENANT USE AND SHALL COORDINATE THE WORK WITH THE BUILDING OWNER'S REPRESENTATIVE.
17. THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR PLUMBING EQUIPMENT CHECK–IN, SAFEKEEPING, AND DAMAGE.
18. INVERTS SHOWN ON PLUMBING DRAWINGS MAY BE REFERENCED FROM THE FINISHED FLOOR ELEVATION. COORDINATE ALL INVERTS WITH BOTH CIVIL AND ARCHITECTURAL DRAWINGS PRIOR TO INSTALLATION.
19. PROVIDE WALL CLEANOUTS IN ALL VENTS FOR COMBINATION WASTE AND VENT SYSTEMS AS REQUIRED BY LOCAL AND NATIONAL CODES.
20. ALL VENT FITTINGS FOR WASTE SYSTEMS BELOW OVERFLOWS OF FIXTURES SHALL BE DRAINAGE TYPE.
21. CONTRACTOR TO COMPLY WITH THE LATEST ADOPTED PLUMBING CODES WHEN SIZING TRAP ARMS ON COMBINATION WASTE AND VENT SYSTEMS. THE DRAWINGS INDICATE THE WASTE LINE SIZE AND THE SIZE OF THE TRAP REQUIRED.
22. PROVIDE CLEANOUTS IN ACCORDANCE WITH THE REQUIREMENTS OF APPLICABLE CODES. FLOOR CLEANOUTS SHALL BE LOCATED OUT OF TRAFFIC AREAS.

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08

REGISTERED PROFESSIONAL ENGINEER
NO. 171885
FREDERIC J. NASH
STATE OF UTAH

TITLE: PLUMBING SPECS. AND SHEET INDEX
DRAWN BY: STS/ARA
PROJECT NO: DFC 0713
DATE: 01/02/08

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET: P0.1

PLUMBING FIXTURE SCHEDULE

SYMBOL	FIXTURE	TRAP	WASTE	INDIRECT WASTE	VENT	COLD WATER	HOT WATER	NAT. GAS	REMARKS	MANUFACTURER MAKE AND MODEL
SH-1	ACCESSIBLE SHOWER	–	–	–	–	i"	i"	–	FIBERGLASS SELF-CONTAINED	BEST BATH LSS3838A5T
A-1	AIR OUTLET	–	–	–	–	–	–	–	i" IPS FEMALE INLET, 2 OUTLET, WALL MOUNT.	MILTON
EEW-1	EMERGENCY EYE WASH	–	–	–	–	s"	s"	–	WALL MOUNTED WITH MIXING VALVE	BRADLEY S19-240
D-1	FLOOR DRAIN	2"	2"	–	1i"	–	–	–		JR SMITH 2010BP
D-2	MECH. ROOM DRAIN	2"	2"	–	1i"	–	–	–		JR SMITH 2110NB
FS-1	FLOOR SINK	2"	2"	–	1i"	–	–	–		JR SMITH 3140-12
WB-1	WASHER BOX	–	2"	–	–	i"	i"	–		SYMMONS W-602
U-1	URINAL	–	3"	–	2"	s"	–	–		KOHLER K4972
WC-1	WATER CLOSET	INT.	4"	–	2"	1"	–	–	FLOOR MOUNTED – FLUSH VALVE TYPE (ADA COMPLIANT)	KOHLER K-4368
L-1	LAVATORY	1i"	1i"	–	1i"	i"	i"	–	WALL MOUNTED (ADA COMPLIANT)	KOHLER K-2006
SS-1	SERVICE SINK	3"	3"	–	1i"	s"	s"	–	CORNER FLOOR TYPE	KOHLER K-6710
EWC-1	ELECTRIC WATER COOLER	1i"	1i"	–	1i"	i"	–	–	ELECTRIC BI-LEVEL (ADA APPROVED)	OASIS P8AMSL
TP-1	TRAP PRIMER	–	–	–	–	i"	–	–	CONNECT TO NEAREST COLD WATER LINE, WITH WATER HAMMER ARRESTOR	PPP MP-500-115V
ICE-1	ICE MACHINE SUPPLY BOX	–	–	–	–	i"	–	–		WATER-TITE 82088
WH-1	WATER HEATER	–	–	–	–	1"	1"	s"	SEE SCHEDULE	
RD-1	ROOF DRAIN								CAST IRON BODY WITH COMBINED FLASHING CLAMP AND CAST IRON GRAVEL STOP, CAST IRON DOME, EXTENSION, SUMP RECEIVER AND UNDERDECK CLAMP.	SMITH FIGURE 1010-ERC
RD-2	SECONDARY ROOF DRAIN								CAST IRON BODY WITH FLASHING CLAMP, GRAVEL STOP, CAST IRON DOME, 2" HIGH CAST IRON WATER COLLAR, EXTENSION, SUMP RECEIVER AND UNDERDECK CLAMP.	SMITH FIGURE 1080-ERC
RD-3	DOWNSPOUT NOZZLE								CAST BRONZE BODY AND FLANGE. PROVIDE BRONZE BOLTS TO SECURE NOZZLE TO WALL. INSTALL 12" ABOVE FOUNDATION UNLESS NOTED OTHERWISE.	SMITH FIGURE 1770

SUPPLIED BY OWNER, TO BE INSTALLED BY CONTRACTOR

SHOP AIR COMPRESSOR SCHEDULE

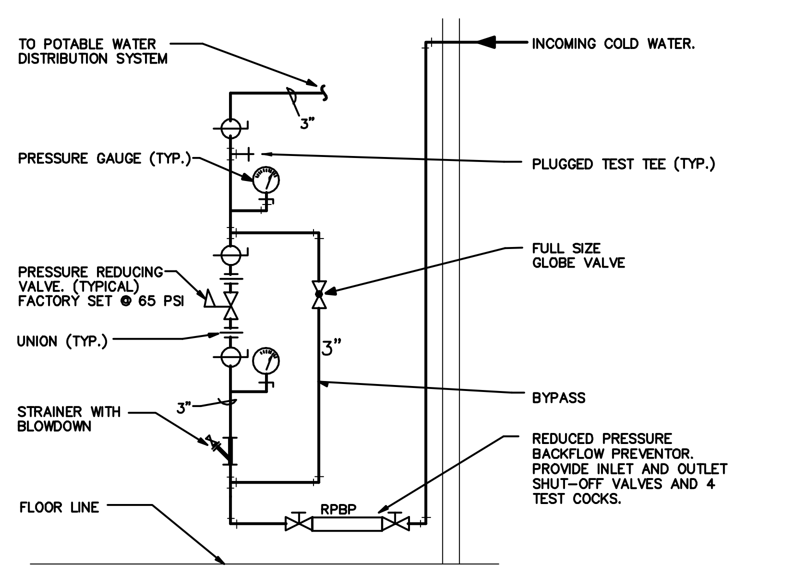
SYMBOL	MANUFACTURER AND MODEL NO.	LOCATION	TYPE	CAPACITY (SCFM)	PRESSURE (PSIG)	RECEIVER (GALLON)	SEAL WATER (GPM)	CHILLED WATER (GPM)	ELECTRICAL H.P	ELECTRICAL VOLT	ELECTRICAL ø	OPERATING WEIGHT (LBS.)	ACCESSORIES AND REMARKS
AIRCOMP	QUINCY QT7.5 120D	OUTSIDE	DUPLEX TWO STAGE TANK MOUNT	22.3	175	128	–	–	7i	240	1	1078	PROVIDE REFRIGERATED DRYER

GAS FIRED DOMESTIC HOT WATER HEATER

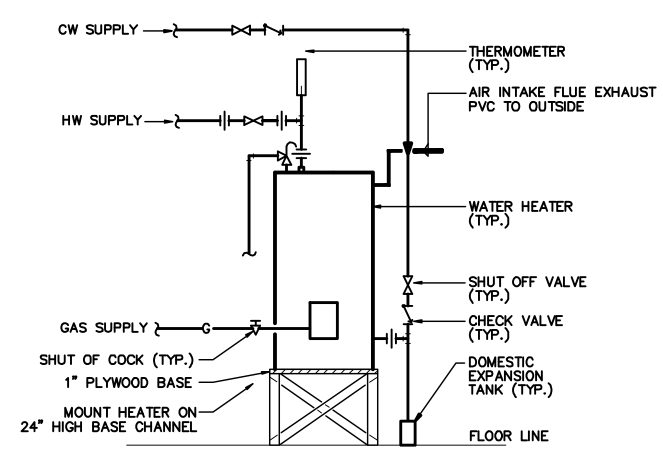
SYMBOL	MANUFACTURER	MODEL NO.	TANK CAPACITY GALLONS	FUEL TYPE	INPUT BTUH (1)	HP	VOLTS PHASE CYCLE	RECOVERY RATE GPH	WATER TEMP IN/OUT	STACK SIZE	COMMENTS
WH-1	AO SMITH	CYCLONE BTH-120	60	PROPANE	125000	N/A	N/A	158	40/130	4	

TRAP PRIMER SCHEDULE

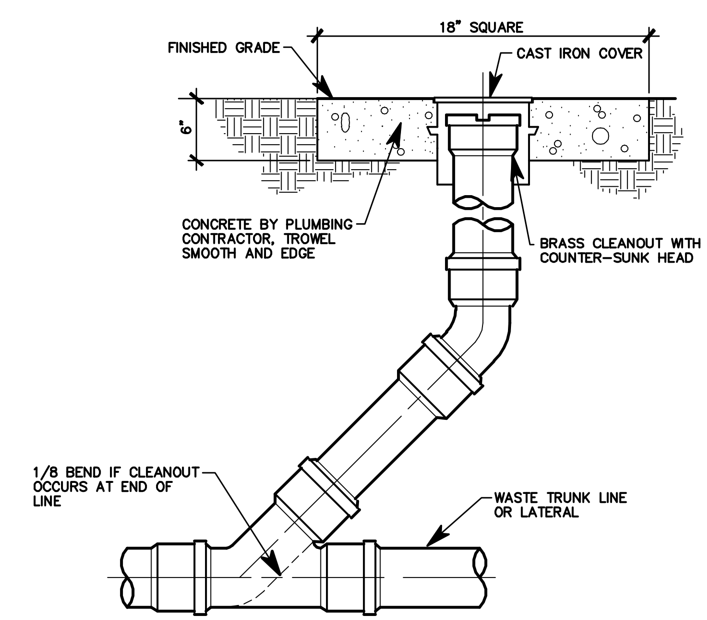
SYMBOL	MANUFACTURER	MODEL NO.	VOLTS/ PHASE/ CYCLE	COMMENTS
TP-1	PRECISION PLUMBING PRODUCTS (ELECTRONIC)	PTS-6	115/1/60	PROVIDE AND INSTALL WATER HAMMER ARRESTOR UP STREAM OF TRAP PRIMER



3 WATER PRESSURE REDUCING VALVE STATION
SCALE: NOT TO SCALE



2 WATER HEATER DETAIL
SCALE: NOT TO SCALE



1 CLEANOUT TO GRADE DETAIL
SCALE: NO SCALE

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08

REGISTERED PROFESSIONAL ENGINEER
NO. 171885
FREDERIC J. NASH
STATE OF UTAH

TITLE: PLUMBING DETAILS AND SCHEDULES

PROJECT NO.: DFC 0713

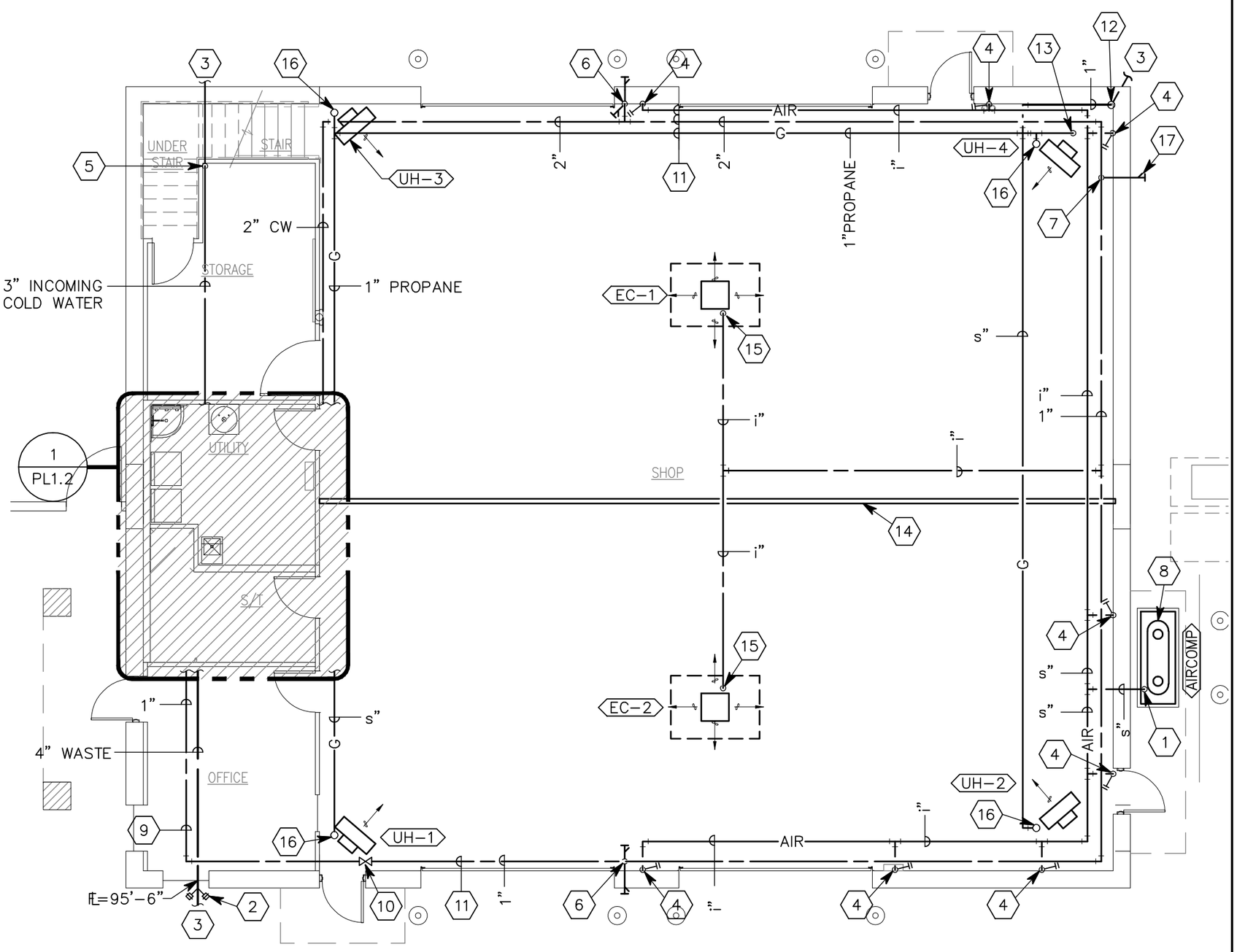
DRAWN BY: STS/ARA

DATE: 01/02/08

PROJECT: STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1156 PHONE / FAX

SHEET: P5.1



NORTH

1/8" = 1'-0"

SHEET KEYNOTES

1. RISE s" AIR FROM COMPRESSOR, THROUGH WALL. RISE UP AND RUN HIGH AROUND BAYS, ABOVE HEIGHT OF ROLL-UP DOORS. PROVIDE SHUT OFF VALVE AT EXIT FROM DRYER.
2. DOUBLE CLEANOUT TO GRADE.
3. SEE CIVIL SITE PLAN FOR CONTINUATION.
4. DROP i" AIR LINE DOWN WALL AND PROVIDE AIR OUTLET. SEE SPECIFICATIONS.
5. INCOMING WATER. RISE UP WALL AND RUN OVERHEAD TO UTILITY ROOM.
6. DROP s" WATER DOWN WALL AND PROVIDE s" HOSE BIBBS ON INSIDE AND OUTSIDE OF WALL. PROVIDE WITH VACUUM BREAKER.
7. DROP 2" WATER DOWN WALL AND CONNECT TO STEAM CLEANER PER MANUFACTURER'S INSTRUCTIONS. PROVIDE ISOLATION VALVE AND BACKFLOW PREVENTER.
8. AIR COMPRESSOR AND DRYER (SUPPLIED BY OWNER). SEE SCHEDULE. INSTALL BOTH PER MANUFACTURER'S INSTRUCTIONS. MOUNT ON 4" C.I.P. CONCRETE PAD.
9. BACKFEED WATER TO COMPLETE THE COLD WATER LOOP.
10. ISOLATION VALVE (TYPICAL).
11. RUN ALL PIPE IN BAYS HIGH ABOVE ROLL-UP DOORS.
12. RISE 1" PROPANE UP INSIDE BUILDING. RUN HIGH TO FURNACE, WATER HEATER AND STEAM CLEANER.
13. DROP 1" PROPANE TO STEAM CLEANER. FIELD VERIFY SIZE AND CONNECT PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE GAS COCK IN LINE. PROVIDE 4 OZ. PRESSURE REGULATOR AND VENT PER SPECIFICATIONS.
14. TRENCH DRAIN. DETAILED REQUIREMENTS ARE ON ARCHITECTURAL/CIVIL DRAWINGS. CAST-IN-PLACE DRAIN WITH GRATING.
15. RISE AND CONNECT WATER TO EVAPORATIVE COOLERS PER DETAILS AND MANUFACTURER'S REQUIREMENTS.
16. RUN AND CONNECT PROPANE TO UNIT HEATERS WITH GAS COCK, PER MANUFACTURER'S REQUIREMENTS.
17. RUN 3/4" WATER DOWN INSIDE WALL AND PROVIDE 3/4" EXTERIOR HOSE BIBB WITH VACUUM BREAKER.

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08

REGISTERED PROFESSIONAL ENGINEER
NO. 171885
FREDERIC J. NASH
STATE OF UTAH

TITLE: PLUMBING PLAN

DRAWN BY: STS/ARA

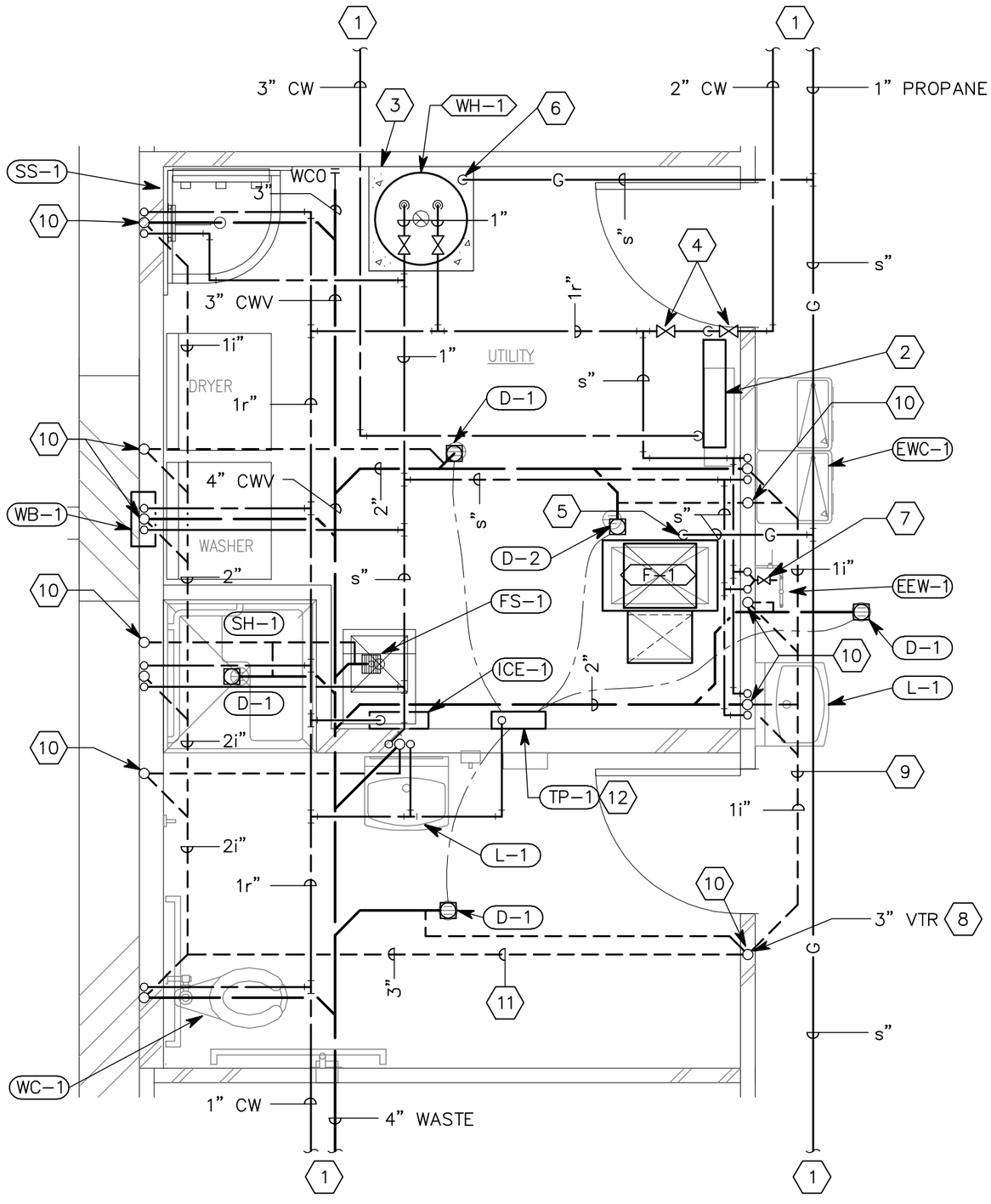
PROJECT NO: DFC 0713

DATE: 01/02/08

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
KANAB, UTAH 84533
435.899.1186 PHONE / FAX

SHEET: PL1.1



1 ENLARGED PLUMBING PLAN

PL1.2 3/8" = 1'-0"

SHEET KEYNOTES

1. SEE SHEET PL1.1 FOR CONTINUATION.
2. REDUCED PRESSURE BACKFLOW PREVENTER AND PRV, PER DETAILS.
3. WATER HEATER ON 24" HIGH FLOOR STAND. CONSTRUCT FLOOR STAND OF CHANNEL FRAMING WITH s" PLYWOOD BASE UNDER UNIT. MOUNT ENTIRE ASSEMBLY ON A 4" C.I.P. HOUSEKEEPING PAD.
4. ISOLATION VALVE (TYPICAL).
5. RUN AND DROP s" PROPANE GAS TO FURNACE. CONNECT PER MANUFACTURER'S INSTRUCTIONS. PROVIDE 4 OZ. PRESSURE REGULATOR AND VENT PER SPECIFICATIONS.
6. RUN AND DROP s" PROPANE GAS TO WATER HEATER. CONNECT PER DETAILS. PROVIDE 4 OZ. PRESSURE REGULATOR AND VENT PER SPECIFICATIONS.
7. TEMPERING MIXING VALVE UNDERNEATH EYEWASH.
8. RISE 3" VTR IN WALL UP THROUGH MEZZANINE, AND THROUGH ROOF.
9. RUN VENT LINES AS HIGH AS POSSIBLE IN UTILITY ROOM AND ABOVE SHOWER ROOM CEILING.
10. RISE VENT IN WALL TO NEAR CEILING IN UTILITY ROOM.
11. RUN VENT ABOVE SHOWER ROOM CEILING.
12. RUN TRAP PRIMER PIPING UNDER FLOOR TO FLOOR DRAINS AS SHOWN.

NORTH

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08

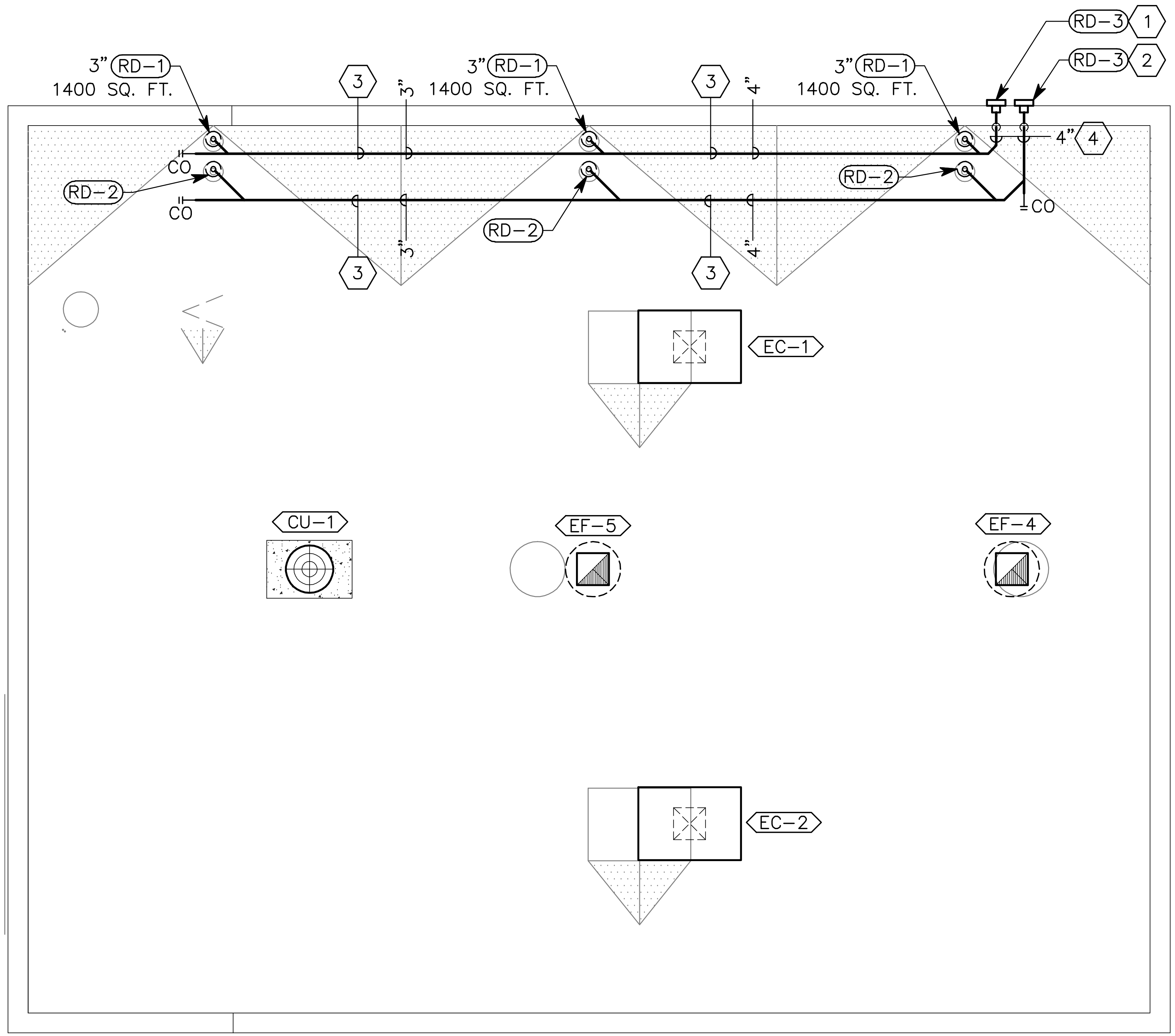
REGISTERED PROFESSIONAL ENGINEER
NO. 171885
FREDERIC J. NASH
STATE OF UTAH

TITLE: ENLARGED PLUMBING PLAN
DRAWN BY: STS/ARA
PROJECT NO: DFC 0713
DATE: 01/02/08

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
357 PARK LANE
HEBER, UTAH 84032
435.654.1155 PHONE / FAX

SHEET: PL1.2



SHEET KEYNOTES

1. LOCATE MAIN ROOF DRAIN OUTLET AT 12" ABOVE GRADE.
2. LOCATE OVERFLOW ROOF DRAIN OUTLET AT 18" ABOVE GRADE.
3. RUN AT 1% SLOPE (OR STEEPER).
4. RUN AT 2% SLOPE (OR STEEPER).

NORTH

1/8" = 1'-0"

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08

REGISTERED PROFESSIONAL ENGINEER
NO. 171885
FREDERIC J. NASH
STATE OF UTAH

TITLE: **ROOF PLUMBING PLAN**

PROJECT NO.: DFC 0713

DRAWN BY: STS/ARA

DATE: 01/02/08

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1136 PHONE / FAX

SHEET:
PL1.3

MECHANICAL SPECIFICATIONS

15010 – BASIC MECHANICAL REQUIREMENTS

1. THE EQUIPMENT INSTALLER SHALL APPLY AND SIGN A CERTIFICATION LABEL TO EACH GAS-FIRED APPLIANCE, STATING THE APPLIANCE HAS BEEN ADJUSTED OR MODIFIED PER MANUFACTURER'S REQUIREMENTS FOR OPERATION AT THE PROJECT ALTITUDE AND WITH THE BTU-CONTENT OF THE AVAILABLE FUEL-GAS.

15055 – BASIC MATERIALS AND METHODS

1. CORE CUT ALL PIPE PENETRATION OF EXISTING MASONRY OR CONCRETE WALLS AND FLOORS. SLEEVE ALL PENETRATIONS THROUGH NEW WALLS AND FLOORS. SEAL ALL PENETRATIONS WATER TIGHT WITH SILICONE SEALANT. USE FIRE RATED SEALANT (3M "FIRE BARRIER" OR EQUAL) FOR 1 HOUR OR 2 HOUR PENETRATIONS.
2. CAULK AROUND ALL PIPING AND DUCTS THAT PASS THROUGH FIRE-RATED PARTITIONS WITH A NON-HARDENING CAULKING SIMILAR TO 3M "FIRE BARRIER".
3. SEAL ALL PIPING AND DUCTS THROUGH WALLS AIR TIGHT.

15100 – VALVES

1. PROVIDE VALVES OF THE TYPE AND QUANTITY SHOWN ON THE DRAWINGS. VALVES OF THE SAME TYPE TO BE BY ONE MANUFACTURER.

15190 – MECHANICAL IDENTIFICATION

1. PIPE MARKERS:
   PLASTIC TAPE: PROVIDE MANUFACTURER'S STANDARD COLOR-CODED PRESSURE-SENSITIVE (SELF ADHESIVE) VINYL TAPE, NOT LESS THAN 3 MILS THICK. 1-1/2" WIDE TAPE MARKERS ON PIPES WITH OUTSIDE DIAMETERS LESS THAN 6" (INCLUDING INSULATION, IF ANY); 2-1/2" WIDE TAPE FOR LARGER PIPES.
2. DUCT MARKERS:
   PROVIDE MANUFACTURER'S STANDARD LAMINATED PLASTIC; COLOR CODED DUCT MARKERS.
3. COLOR:
   COMPLY WITH ANSI A13.1
4. LETTERING:
   MANUFACTURER'S STANDARD PRE-PRINTED NOMENCLATURE WHICH BEST DESCRIBES PIPING OR DUCT SYSTEM IN EACH INSTANCE OR AS SELECTED BY ARCHITECT OR ENGINEER IN CASES OF VARIANCE WITH NAMES AS SHOWN.
5. ARROWS:
   PRINT EACH MARKER WITH ARROWS INDICATING DIRECTION OF FLOW.
6. VALVE TAGS:
   PROVIDE PLASTIC LAMINATE VALVE TAGS: MANUFACTURER'S STANDARD 3/32" THICK ENGRAVED TAGS WITH PIPING SYSTEM ABBREVIATION IN 1/4" HIGH LETTERS AND SEQUENCED VALVE NUMBERS 1/2" HIGH, WITH 5/32" HOLE FOR FASTENER. PROVIDE 1-1/2" SQUARE BLACK TAGS WITH WHITE LETTERING.
7. VALVE TAG FASTENERS:
   PROVIDE MANUFACTURER'S STANDARD SOLID BRASS CHAIN (WIRE LINK OR BEADED TYPE), OR SOLID BRASS S-HOOKS OF THE SIZED REQUIRED FOR PROPER ATTACHMENT OF TAGS TO VALVES, AND MANUFACTURED SPECIFICALLY FOR THAT PURPOSE.

15242 – VIBRATION ISOLATION, SOUND ISOLATION & SEISMIC BRACING

1. ALL MECHANICAL EQUIPMENT, DUCTWORK, AND PIPING MUST BE VIBRATION ISOLATED AND SEISMICALLY BRACED FOR THE SITE SPECIFIC SEISMIC DESIGN CATEGORY AND SEISMIC USE GROUP, IN ACCORDANCE WITH THE LATEST ADOPTED EDITIONS OF THE BUILDING CODES, ASHRAE, AND SMACNA. PROVIDE SEISMIC PRODUCTS BY AMBER-BOOTH OR MASON INDUSTRIES.
2. IN GENERAL, PROVIDE SPRING MOUNTS TO ATTENUATE LOW FREQUENCY SOUND AND VIBRATION AND NEOPRENE PADS TO ATTENUATE HIGH FREQUENCY SOUND AND VIBRATION. SEISMIC BRACING/MOUNTING CAN BE COMBINED WITH VIBRATION ISOLATION AS APPLICABLE.
3. CONTRACTOR MANUFACTURED SEISMIC BRACING/RESTRAINT METHODS ARE NOT ACCEPTABLE. PROVIDE A SIGNED AND STAMPED LETTER FROM A PROFESSIONAL ENGINEER CERTIFYING THAT THE SUPPLIED PRODUCTS ARE CORRECT FOR THE APPLICATION AND THAT THE INSTALLATION IS IN COMPLIANCE WITH ALL APPLICABLE CODES.

MECHANICAL SPECIFICATIONS

15530 – REFRIGERANT PIPING

1. INSTALL MANUFACTURER'S PRE-CHARGED REFRIGERANT LINE-SETS FROM THE CONDENSING UNIT TO THE DX-COIL AND CONNECT AS REQUIRED. ALL PIPING PENETRATIONS SHALL BE SEALED WATERTIGHT WITH SILICONE SEALANT AND PROVIDED WITH ESCUTCHEON PLATES WHERE VISIBLE. SUPPORT REFRIGERANT LINES AT 5 FT ON CENTER. SUPPORT EXTERIOR PIPING ON UNISTRUT. NEST GROUPS OF PIPE TOGETHER WHENEVER POSSIBLE. SIZE OF LINES TO BE AS RECOMMENDED BY THE MANUFACTURER OF THE EQUIPMENT, FOR THE REFRIGERATION CAPACITY, DISTANCE AND VERTICAL RISES INVOLVED. PROVIDE DOUBLE SUCTION RISERS WHEN CONDENSING UNIT IS MORE THAN MANUFACTURERS RECOMMENDED HEIGHT ABOVE THE EVAPORATOR COIL.
2. PROVIDE COPPER REFRIGERANT PIPING SIZED AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER. BRAISE ALL JOINTS AND FITTINGS. PROVIDE 1/2" THICK INSULATION ON ENTIRE LENGTH OF REFRIGERANT SUCTION PIPING EQUAL TO 'ARMSTRONG ARMAFLEX'. COAT ALL INSULATION JOINTS WITH TWO (2) COATS OF GRAY 'ARMAFLEX NO.22' FINISH OR EQUAL. PROVIDE EXTERIOR INSULATION WITH A UV PROTECTION SLEEVE.

15575 – VENTS, BREACHING, CHIMNEYS, AND STACKS

1. FLUES SHALL BE CLASS "B" METALBESTOS ALUMINUM CONSTRUCTION WITH CLEANOUT PLUG. A WIND PROOF RAIN CAP SHALL BE PROVIDED AND INSTALLED. LOCATE ALL VENTS AND FLUES AT LEAST 3 FT ABOVE OR 10 FT AWAY FROM ALL OUTSIDE AIR INTAKES OR OPENINGS INTO THE BUILDING. FOR HEALTH CARE APPLICATIONS, VENTS AND FLUES SHALL BE 25 FEET AWAY FROM AIR INTAKES OR OPENINGS.

15610 – FORCED AIR FURNACES

1. FACTORY ASSEMBLED CONDENSING GAS FURNACE WITH 100% OUTDOOR COMBUSTION AIR, SEALED COMBUSTION MINIMUM 90% AFUE. FURNACE SHALL CONSIST OF CASING, HEAT EXCHANGERS, BLOWER, AIR FILTER, REDUNDANT GAS VALVE, HOT SURFACE IGNITOR, AND CONTROLS. UNITS TO HAVE 20 YEAR HEAT EXCHANGER WARRANTY. UNITS TO BE CARRIER, LENNOX, TRANE, OR YORK.

   PIPING FOR FURNACE VENT/INTAKE AIR AND FOR CONDENSATE DRAINS, SHALL BE PVC SCHEDULE 40, SECURELY SUPPORTED AT NO MORE THAN 5 FT CENTERS AND PAINTED WHITE. INSULATE ALL VENTS AND AIR INTAKES LOCATED IN TRUSS SPACES AND IN ATTICS.
2. PROVIDE FURNACE MANUFACTURER'S STANDARD A-FRAME OR N-FRAME DX COOLING COIL. COIL TO BE COMPLETE WITH GALVANIZED DRAIN PAN WITH DRAIN CONNECTION, DX EXPANSION VALVE, LIQUID SOLENOID VALVE, AND LIQUID LINE SIGHT GLASS/MOISTURE INDICATOR. MOUNT COOLING COIL IN FURNACE SUPPLY PLENUM IN LOCATION SHOWN ON DRAWINGS.
3. INSTALL 3/4" COPPER CONDENSATE DRAIN LINE FROM COOLING COIL DRAIN PAN AT INDOOR UNIT OF SPLIT SYSTEMS AND EXTEND TO OUTSIDE, TIE TO TAILPIECE OF NEAREST SINK, RUN TO NEAREST FAN ROOM FLOOR DRAIN OR RUN TO NEAREST SERVICE SINK.
4. PROVIDE CONCENTRIC VENT TERMINATION KIT FOR ROOF OR WALL APPLICATIONS.

15620 – FUEL FIRED HEATERS

1. FACTORY ASSEMBLED AND TESTED GAS-FIRED PROPELLER UNIT HEATER. UNIT HEATER TO BE COMPLETE WITH WELDED ALUMINIZED BURNER AND HEAT EXCHANGER, GALVANIZED STEEL CASING WITH BAKED ENAMEL FINISH, 4-WAY AIR DIFFUSION LOUVER, DIRECT DRIVE PROPELLER FAN AND MOTOR, GAS VALVE, SPARK IGNITION AND ALL CONTROLS. UNITS TO BE MODINE, REZNOR, STERLING, ARMSTRONG, OR TRANE.

15670 – CONDENSING UNITS

1. FACTORY ASSEMBLED AND TESTED AIR COOLED CONDENSING UNITS, CONSISTING OF CASING, COMPRESSOR, CONDENSER COIL, CONDENSER FAN AND MOTOR, REFRIGERANT RESERVOIR, AND OPERATING CONTROLS. UNITS TO BE COMPLETE WITH HIGH AND LOW PRESSURE CUTOUTS, SERVICE SHUTOFF VALVES, AND HAVE 5 YEAR COMPRESSOR WARRANTY. UNITS TO BE CARRIER, LENNOX, TRANE, OR YORK.
2. MOUNT UNIT ON ROOF CURB AND VIBRATION ISOLATORS.

15730 – EVAPORATIVE COOLERS

1 DIRECT EVAPORATIVE COOLER SHALL BE A MANUFACTURED UNIT COMPLETE WITH FORWARD CURVED FAN, BELT DRIVE, SINGLE SPEED MOTOR, CIRCULATING PUMP, WATER DISTRIBUTION SYSTEM, EVAPORATIVE MEDIA, WATER RESERVOIR, AUTOMATIC DRAIN DOWN / BLEED OFF SYSTEM AND CABINET. THE CABINET, BLOWER HOUSING, BLOWER WHEEL AND WATER RESERVOIR SHALL BE PROTECTED AGAINST RUST OUT FOR A PERIOD OF 5 YEARS. COOLER SHALL BE ARVIN, ARCTIC CIRCLE, CHAMPION OR APPROVED EQUAL.

MECHANICAL SPECIFICATIONS

15850 – FANS AND ROOF HOODS

1. ROOF MOUNTED EXHAUST FANS SHALL BE COMPLETE WITH BACKDRAFT DAMPERS. A DISCONNECT SWITCH SHALL BE PROVIDED AT THE FAN. THE FAN SHALL BE COMPLETE WITH INSECT SCREEN AND PREFABRICATED ROOF CURB MATCHING THE FAN SIZE.
2. CEILING MOUNTED EXHAUST FANS SHALL BE COMPLETE WITH LOUVERED GRILLE, BACKDRAFT DAMPER, AND WALL CAP OR ROOF CAP, SEE PLANS.
3. MANUFACTURERS:
   A. COOK
   B. ILG
   C. PENN
   D. GREENHECK
   E. BROAN

15890 – METAL DUCTWORK

1. ALL DUCTWORK SHALL BE CONSTRUCTED, ERECTED, AND TESTED IN ACCORDANCE WITH THE MOST RESTRICTIVE OF LOCAL REGULATIONS AND PROCEDURES DETAILED IN THE ASHRAE HANDBOOK OF FUNDAMENTALS, OR THE APPLICABLE STANDARDS ADOPTED BY THE SHEET METAL AND AIR CONDITIONING CONTRACTOR'S NATIONAL ASSOCIATION, (SMACNA).
2. TRANSITION ALL NEW DUCTWORK TO CONNECT TO OTHER DUCTWORK AND EQUIPMENT, AS REQUIRED.
3. DUCTWORK SHALL BE GALVANIZED STEEL THROUGHOUT, FABRICATED AND INSTALLED SO THAT NO VIBRATION OR NOISE RESULTS. IT SHALL BE MADE FROM THE BEST GRADE OF GALVANIZED MILLED STEEL SHEETS OF U.S. STANDARD GAUGE AND BE FREE FROM BLISTERS, SLIVERS, AND PITS. ALL SEAMS SHALL BE AIRTIGHT, THE CONSTRUCTION OF ALL DUCTWORK, INCLUDING GAUGES OF METAL, BRACING LAYOUT, ETC., SHALL BE IN ACCORDANCE WITH SMACNA. SLEEVES FOR FIRE DAMPERS AND DUCT SECTIONS FORMING AN EXTENSION OF THE FIRE WALL SHALL BE 10 GAUGE STEEL.
4. SEAL DUCTWORK ACCORDING TO THE FOLLOWING SMACNA DUCT SEALING CLASS:

DUCT LOCATION	DUCT TYPE			
	SUPPLY		EXHAUST	RETURN
	<2in. Wg.	>2in. Wg.		
OUTDOORS	A	A	A	A
UNCONDITIONED SPACES	B	A	B	B
CONDITIONED SPACES (CONCEALED DUCTWORK)	C	B	B	B
CONDITIONED SPACES (EXPOSED DUCTWORK)	A	A	B	B

5. HANGERS FOR DUCTS UP TO 18" IN WIDTH OR DIAMETER SHALL BE PLACED ON NOT MORE THAN 8 FOOT CENTERS. DUCTS 19" AND OVER IN WIDTH OR DIAMETER SHALL BE SUPPORTED ON NOT MORE THAN 4 FOOT CENTERS. DUCT HANGERS SHALL BE CONSTRUCTED OF GALVANIZED BAND IRON 1-1/8" FOR DUCTS UP TO 36" IN WIDTH OR DIAMETER. HANGERS SHALL EXTEND DOWN SIDES AND A MINIMUM OF 1" UNDER RECTANGULAR DUCTS, AND WRAP COMPLETELY AROUND ROUND DUCTS. ALL DUCTS SHALL BE RIGIDLY SUPPORTED.
6. ALL DUCTWORK SHALL BE CLEANED PRIOR TO THE INSTALLATION OF CEILING, DIFFUSERS AND GRILLES. OPERATE FANS TO BLOW OUT DUCTWORK.
7. RECTANGULAR LOW-PRESSURE SUPPLY AND RETURN AIR DUCTWORK SHALL BE LINED WITH 1" FACED FIBERGLASS INSULATION SECURELY BUTTONED OR LAPPED AND SEALED. INSULATION SHALL BE 1-1/2 POUND DENSITY.
8. DUCT DIMENSIONS SHOWN ON DRAWINGS ARE INSIDE CLEAR AREA AND SHALL BE INCREASED TO ACCOMMODATE INSULATION. DUCT LINER TO BE BY KNAUF GmbH, JOHNS-MANVILLE OR SCHULLER INTERNATIONAL.
9. DUCTWORK FOR EVAPORATIVE COOLERS AND EVAPORATIVELY COOLED MAKE-UP AIR UNITS SHALL BE FABRICATED FROM ALUMINUM SHEETS. ALL SEAMS SHALL BE AIRTIGHT. THE CONSTRUCTION OF ALL DUCTWORK, INCLUDING GAUGES OF METAL, BRACING, LAYOUT, ETC. SHALL BE IN ACCORDANCE WITH SMACNA.

MECHANICAL SPECIFICATIONS

15891 – DUCTWORK ACCESSORIES

1. FLEXIBLE DUCTWORK:
   THE FINAL 5 FOOT CONNECTION TO GRILLES AND DIFFUSERS IN LAY-IN CEILINGS, OR TO FLOOR MOUNTED GRILLES, MAY BE MADE WITH FLEXIBLE DUCT, FLEXMASTER TYPE 5M ONLY. ENDS SHALL BE SEALED.
2. SQUARE/RECTANGULAR ELBOWS SHALL BE PROVIDED WITH TURNING VANES.
3. ALL DUCT BRANCHES AND TAKE-OFFS SHALL BE HIGH-EFFICIENCY TYPES, WITH DUCT MOUNTED BALANCING DAMPERS.
4. PROVIDE FLEXIBLE CONNECTIONS NOT LESS THAN 4" WIDE CONSTRUCTED OF HEAVY, WATERPROOF, WOVEN PLASTIC COATED GLASS FABRIC AT SUPPLY AND RETURN CONNECTIONS TO FURNACES, AIR HANDLING, ROOFTOP, MAKE-UP AIR OR FAN-COIL UNITS. CORNERS SHALL BE SEWN TIGHT. CONNECTIONS SHALL BE 20 OUNCE VENTFABRICS OR EQUAL.
5. DUCT MOUNTED BALANCING DAMPERS SHALL BE USED TO CONTROL SUPPLY, RETURN OR EXHAUST AIR TO EACH DIFFUSER AND GRILLE. AN OPERATING HEAD SHALL BE PLACED ON THE SIDE OF THE DUCT WITH A POSITIVE LOCKING QUADRANT. DAMPERS SHALL BE PROVIDED IN RETURN AND SUPPLY AIR DUCTS WHERE SHOWN ON DRAWINGS. COORDINATE THE LOCATION OF CEILING ACCESS PANELS.
6. PROVIDE CEILING ACCESS DOORS AT ALL LOCATIONS OF BALANCING DAMPERS, VALVES, ETC., WHERE THERE IS NOT A LIFT-OUT TYPE CEILING. ACCESS DOORS SHALL BE HINGED OF METAL CONSTRUCTION WITH SCREWDRIVER LATCHES.

15932 – GRILLES, DIFFUSER AND LOUVERS

1. ALL GRILLES, DIFFUSERS, AND REGISTERS SHALL BE COMPLETE WITH FRAMES AND RUBBER GASKETS. FINISH FOR ALL REGISTERS, DIFFUSERS, AND GRILLES SHALL BE WHITE.
2. MANUFACTURERS:
   A. KRUEGER
   B. TITUS
   C. PRICE
   D. NAILOR
3. COORDINATE THE LOCATIONS OF ALL CEILING DIFFUSERS, REGISTERS, AND GRILLES WITH THE ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL LIGHTING LAYOUT, AND ARCHITECTURAL ELEVATIONS.
4. LOUVERS SHALL HAVE MINIMUM FREE AREA AND MAXIMUM PRESSURE DROP AS LISTED IN THE SCHEDULES. LOUVER SHALL HAVE FRAME AND SILLS COMPATIBLE WITH ADJACENT SUBSTRATE AND FIT ACCURATELY FOR WEATHERPROOF INSTALLATION. LOUVERS SHALL BE COMPLETE WITH 1" MESH ANODIZED ALUMINUM BIRD SCREEN. MANUFACTURER: AIROLITE K6776.

DEFINITIONS

NOTE: ALL DEFINITIONS MAY NOT BE USED.

INDICATED: THE TERM "INDICATED" REFERS TO GRAPHIC REPRESENTATIONS, NOTES, OR SCHEDULES ON THE DRAWINGS, OTHER PARAGRAPHS OR SCHEDULES IN THE SPECIFICATIONS, AND SIMILAR REQUIREMENTS IN THE CONTRACT DOCUMENTS. WHERE TERMS SUCH AS "SHOWN", "NOTED", "SCHEDULED", AND "SPECIFIED" ARE USED, IT IS TO HELP THE READER LOCATE THE REFERENCE, NO LIMITATION ON LOCATION IS INTENDED.

DIRECTED: TERMS SUCH AS "DIRECTED", "REQUESTED", AUTHORIZED", "SELECTED", "APPROVED", "REQUIRED", AND "PERMITTED" MEAN "DIRECTED BY THE ENGINEER", "REQUESTED BY THE ENGINEER", AND SIMILAR PHRASES.

APPROVE: THE TERM "APPROVED", WHERE USED IN CONJUNCTION WITH THE ENGINEER'S ACTION ON THE CONTRACTOR'S SUBMITTALS, APPLICATIONS, AND REQUESTS, IS LIMITED TO THE ENGINEER'S DUTIES AND RESPONSIBILITIES AS STATED IN GENERAL AND SUPPLEMENTARY CONDITIONS.

FURNISH: THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS."

INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL "UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS TO MAKE THE ITEM FULLY OPERATIONAL."

PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."

INSTALLER: AN "INSTALLER" IS THE CONTRACTOR OR AN ENTITY ENGAGED BY THE CONTRACTOR, EITHER AS AN EMPLOYEE, SUBCONTRACTOR, OR SUB-SUBCONTRACTOR, FOR PERFORMANCE OF A PARTICULAR CONSTRUCTION ACTIVITY, INCLUDING INSTALLATION, ERECTION, APPLICATION, AND SIMILAR OPERATIONS. INSTALLERS ARE REQUIRED TO BE EXPERIENCED IN THE OPERATIONS THEY ARE ENGAGED TO PERFORM.

MECHANICAL SPECIFICATIONS

15970 – AUTOMATIC TEMPERATURE CONTROL SYSTEM

FURNISH AND INSTALL A COMPLETE ELECTRONIC AUTOMATIC TEMPERATURE CONTROL SYSTEM. CONTROL SYSTEM TO BE BY JOHNSON CONTROLS, SIEMENS, UTAH CONTROLS (TSI), ATKINSON ELECTRONICS (STAEFA). CARRIER AND TEKMAR CONTROLS ARE ALSO ACCEPTABLE, PROVIDED THAT THEIR STANDARD PRODUCTS CAN DO THE CONTROL SEQUENCES. PROVIDE THE FOLLOWING FUNCTIONS:

1. BUILDING HVAC CONTROL SYSTEM:
   A. FURNACE/CONDENSING UNIT SYSTEM:
      PROVIDE WALL MOUNTED THERMOSTATS WITH 2-STAGE HEATING, 1-STAGE COOLING AND NIGHT SETBACK.
   B. UNIT HEATERS:
      MOUNT 24 VOLT TRANSFORMER AT UNIT HEATER AND LOCATE 24 VOLT HEATING THERMOSTAT BELOW UNIT HEATER AT 5 FT ABOVE FLOOR. ON A CALL FOR HEATING, UNIT HEATER FAN TO START UP AND PROVIDE GAS, HOT WATER, OR ELECTRIC HEAT AUTOMATICALLY, UNTIL THE THERMOSTAT SETPOINT HAS BEEN REACHED.
   C. EVAPORATIVE COOLER CONTROL:
      THE EVAPORATIVE COOLER SHALL BE PROVIDED WITH ALL CONTROLS. A MANUAL WALL MOUNTED SWITCH SHALL START THE EVAPORATIVE COOLER AND ASSOCIATED WATER SUPPLY. THE SWITCH SHALL BE INTERLOCKED WITH THE RELIEF AIR DAMPER SO THAT THE DAMPER WILL OPEN WHEN THE EVAPORATIVE COOLER RUNS. PROVIDE TWO WALL MOUNTED SWITCHES, LABELED FOR "EVAPORATIVE COOLER DRAIN" AND " EVAPORATIVE COOLER FILL", AND WIRE TO ELECTRIC SOLENOID VALVES AT EVAPORATIVE COOLER (BELOW ROOF).
   D. TOILET EXHAUST FANS:
      SHALL BE ACTIVATED BY THE TOILET ROOM LIGHT SWITCH, OR MOTION SENSOR (BY ELECTRICAL, DIV. 16). SEE FAN SCHEDULE.
2. VEHICLE BAY EXHAUST FANS:

   EXHAUST FANS SHALL BE CONTROLLED BY CARBON MONOXIDE SENSORS MOUNTED ON THE WALL OR COLUMNAT 5' A.F.F. AS SHOWN ON THE PLANS. PROVIDE AN ELECTRONIC SENSOR WHICH IS VIBRATION AND CORROSION RESISTANT BY MACURCO, INC., SIERRA MONITOR CORP., SENSIDYNE, OR APPROVED EQUAL.

   PROVIDE A MANUFACTURER BUILT SYSTEM CONTROL PANEL INCLUDING DOOR MOUNTED CO SENSOR READOUT, 0-60 MINUTE CRANK TIMER, AND "MANUAL-AUTOMATIC" SWITCH.

   EXHAUST FAN SHALL BE ENERGIZED BY EITHER THE CRANK TIMER OR THE CO SENSOR. IF THE CO CONCENTRATION RISES ABOVE 100 PPM, THE FAN WILL REMAIN ON UNTIL THE CONCENTRATION DROPS BELOW 100 PPM (SET POINT TO BE FIELD ADJUSTABLE TO MEET CONDITIONS).

MECHANICAL SHEET INDEX

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08

REGISTERED PROFESSIONAL ENGINEER
NO. 171885
FREDERIC J. NASH
STATE OF UTAH

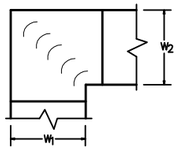
TITLE: MECHANICAL SPECS. AND SHEET INDEX
DATE: 01/02/08
DRAWN BY: STS/ARA
PROJECT NO.: DFC 0713

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
HEBER, UTAH 84032
435.565.1188 PHONE / FAX

SHEET: M0.1

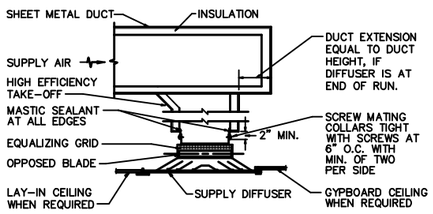
File Name: C:\JOBS 07\DFC 0713\DWGS MECH\47M01.dwg Last Plotted: 2008/01/08 @ 9:42 AM By: james dresslar



1. ALL VANED ELBOWS SHALL BE CONSTRUCTED AND INSTALLED AS DETAILED BY SMACNA.
2. WHEN W_1 DOES NOT EQUAL W_2 VANE SHALL BE SINGLE VANE TYPE REGARDLESS OF W DIMENSION.
3. ALL SINGLE VANES SHALL HAVE A 2 INCH RADIUS, 1¼ INCH MAXIMUM SPACE BETWEEN VANES AND A ¾ INCH TRAILING EDGE.
4. WHEN W_1 EQUALS W_2 AND W_1 IS GREATER THAN 20 INCHES VANES SHALL BE DOUBLE VANE TYPE.

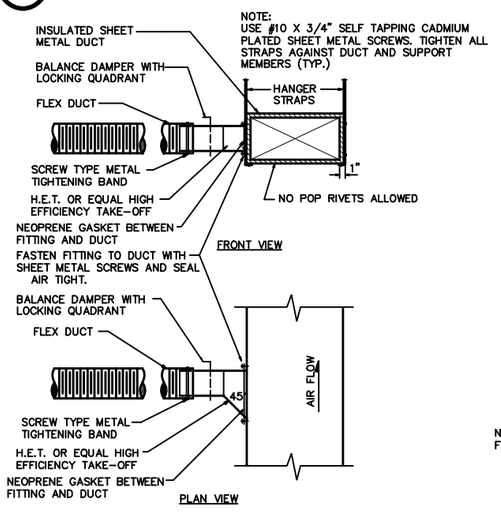
13 SQUARE VANED ELBOWS

SCALE: NOT TO SCALE



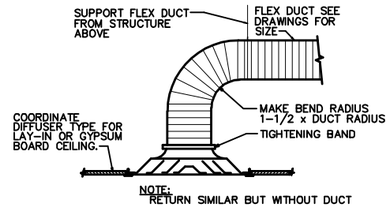
12 CEILING DIFFUSER

SCALE: NOT TO SCALE



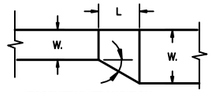
11 FLEX DUCT WITH HIGH EFFICIENCY TAKE OFF

SCALE: NOT TO SCALE

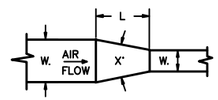


10 DIFFUSER CONNECTION

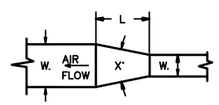
SCALE: NOT TO SCALE



ECCENTRIC TRANSITION:
MAX. 30° ANGLE
EXCEPT 45° IS PERMITTED AT ROUND TO FLAT OVAL
L (MIN.) = (W.



CONVERGING CONCENTRIC TRANSITION:
X° = 60° MAX.
L (MIN.) = (W.

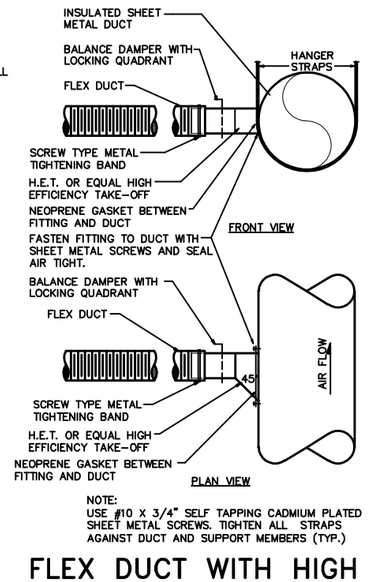


DIVERGING CONCENTRIC TRANSITION:
X° = 45° MAX.
L (MIN.) = (W.

NOTE: UNLESS OTHERWISE INDICATED ON PLANS, MAXIMUM ANGLES SHOWN SHALL APPLY.

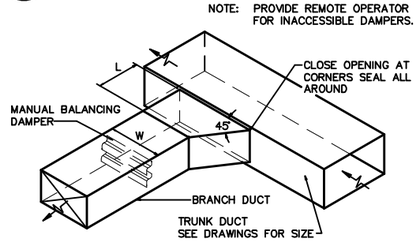
9 DUCT TRANSITIONS

SCALE: NOT TO SCALE



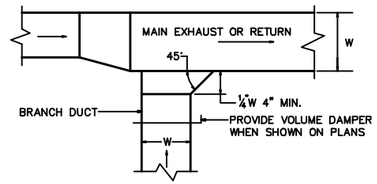
8 FLEX DUCT WITH HIGH EFFICIENCY TAKE OFF

SCALE: NOT TO SCALE



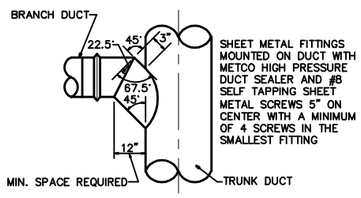
7 BRANCH DUCT TAKE-OFF

SCALE: NOT TO SCALE



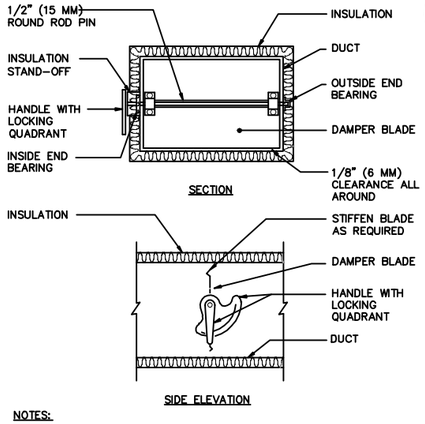
6 EXHAUST AND/OR RETURN BRANCH DUCT

SCALE: NOT TO SCALE



5 45°–90° TEE FITTING

SCALE: NOT TO SCALE



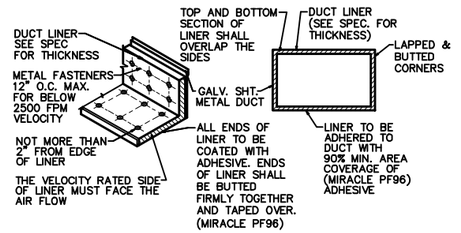
NOTES:

1. DELETE INSULATION STAND–OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.
2. DETAIL SHOWS SINGLE BLADE DAMPER. DAMPER INSTALLATION SHALL BE SIMILAR FOR MULTI–BLADE DAMPERS & ROUND DAMPERS.

4 VOLUME DAMPER

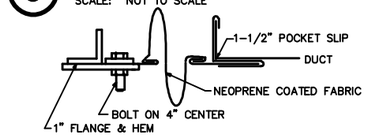
SCALE: NOT TO SCALE

METAL FASTENERS :
OMARK INSUL–PINS, DURA DYNE FASTENERS OR GRIP NAILS. GRIP NAILS SHALL BE INSTALLED BY "GRIP NAIL AIR HAMMER" OR BY AUTOMATIC FASTENER EQUIP.



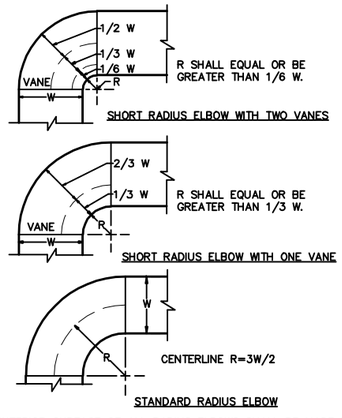
3 DUCT LINER

SCALE: NOT TO SCALE



2 FLEX CONNECTION

SCALE: NOT TO SCALE



1. THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND.
2. ALL STANDARD RADIUS ELBOWS SHOWN ON DRAWINGS MAY BE MADE SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.

1 RADIUS ELBOWS

SCALE: NOT TO SCALE

GENERAL MECHANICAL NOTES (CONT.)

22. PREPARE 6 COPIES OF SUBMITTALS IN AN INDEXED, LABELED FOLDER CONTAINING FULL PERFORMANCE, MATERIAL AND INSTALLATION INFORMATION ABOUT ALL EQUIPMENT, PIPING, COMPONENTS AND ACCESSORIES TO BE USED. SUBMITTALS WILL BE CHECKED AT MOST TWICE. TIME SPENT ON SUBSEQUENT SUBMITTALS WILL BE BILLED TO THE CONTRACTOR BY THE ENGINEER AT ITS CURRENT HOURLY RATES.
23. TWO OPERATING AND MAINTENANCE MANUALS SHALL BE PROVIDED IN HARD BACK LOOSE LEAF BINDERS. MANUALS SHALL CONTAIN PRODUCT CUT SHEETS AND OPERATING AND MAINTENANCE INSTRUCTIONS ON ALL EQUIPMENT, ACCESSORIES, FIXTURES, VALVES, ETC., PROVIDED FOR THE PROJECT.
24. UPON COMPLETION OF THE WORK, REMOVE ALL SURPLUS MATERIALS AND RUBBISH. MAKE ALL REQUIRED PATCHING AND REPAIRS OF OTHER TRADES' WORK DAMAGED BY THE DIVISION 15 CONTRACTOR, AND LEAVE THE PREMISES IN A CLEAN, ORDERLY CONDITION.
25. THE DIVISION 15 CONTRACTOR SHALL OPERATE THE SYSTEM AND DEMONSTRATE ALL ASPECTS TO THE ENGINEER AND/OR OWNER, TO PROVE ITS OPERATION. ALL FILTERS USED DURING CONSTRUCTION SHALL BE REPLACED PRIOR TO THE TEST RUN PERIOD.
26. THE DIVISION 15 CONTRACTOR SHALL GUARANTEE THE HVAC SYSTEM FOR A PERIOD OF ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.
27. THE DIVISION 15 CONTRACTOR SHALL, DURING CONSTRUCTION, MAINTAIN A SET OF AS–BUILT REDLINED RECORD DRAWINGS AT THE PROJECT SITE. ALL CHANGES IN LAYOUT, ROUTING, EQUIPMENT, COMPONENTS, AND ACCESSORIES SHALL BE RECORDED. THESE REDLINES SHALL BE GIVEN TO THE ARCHITECT/ENGINEER AFTER THE FINAL INSPECTION.

GENERAL MECHANICAL NOTES

1. PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO CONSTRUCT A COMPLETE, OPERATIONAL HVAC SYSTEM FOR THE ENTIRE PROJECT AS SHOWN ON THESE DRAWINGS, INCLUDING ALL NECESSARY FEES AND PERMITS.
2. THE ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE MOST RECENTLY ADOPTED BUILDING CODE, MECHANICAL CODE, PLUMBING CODE, ELECTRICAL CODE, AND ALL OTHER APPLICABLE CITY, COUNTY, STATE, AND FEDERAL CODES AND REGULATIONS IN EFFECT AT THE DATE OF THE BID. CONFORM TO ANY CODES, RULES, REGULATIONS AND REQUIREMENTS THAT THE PROJECT OWNER HAS.
3. PRIOR TO FABRICATION AND INSTALLATION, COORDINATE THE INSTALLATION OF ALL HVAC PIPING, DUCTWORK, AND EQUIPMENT WITH PLUMBING PIPING, PLUMBING EQUIPMENT, REFRIGERATION TRENCHES AND PIPING, FIRE PROTECTION PIPING AND ALL OTHER TRADES INCLUDING BUT NOT LIMITED TO: THE MECHANICAL CONTRACTOR, REFRIGERATION CONTRACTOR, ELECTRICAL CONTRACTOR, FIRE PROTECTION CONTRACTOR, GENERAL CONTRACTOR, AND ANY CONTRACTOR HIRED DIRECTLY BY THE OWNER. WHERE CONFLICTS MAY OCCUR, THEY SHALL BE RESOLVED PRIOR TO INSTALLATION.
4. THE DRAWINGS SHOW THE GENERAL DESIGN, ARRANGEMENTS AND THE EXTENT OF THE SYSTEM. IT SHALL BE THE WORK OF THE CONTRACTOR TO MAKE SUCH SLIGHT ALTERATIONS AS MAY BE NECESSARY TO MAKE THE SYSTEM COMPLETE AND OPERATIONAL IN ACCORDANCE WITH THE DESIGN INTENT. MAJOR DEVIATIONS SUCH AS CHANGES IN COMPONENT SIZES, WEIGHTS, QUANTITIES, OR MATERIAL REQUIRE PRIOR APPROVAL BY THE CONSULTING ENGINEER.
5. ALL HVAC INFORMATION IS NOT SHOWN ON THE HVAC DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENTS INCLUDING ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND REFRIGERATION DRAWINGS.
6. THE WORKING DRAWINGS ARE DIAGRAMMATIC. BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, THEY DO NOT SHOW EVERY OFFSET, BEND OR ELBOW NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. ALL LOCATIONS FOR HVAC EQUIPMENT AND PIPING SHALL BE CHECKED AND COORDINATED WITH THE ARCHITECTURAL, MECHANICAL, STRUCTURAL AND ELECTRICAL DRAWINGS.
7. SPACE ABOVE ALL CEILINGS IS LIMITED. CAREFUL COORDINATION IS REQUIRED WITH ALL TRADES BEFORE ANY PIPE, DUCT, OR EQUIPMENT IS ORDERED AND/OR INSTALLED. ANY CONFLICTS AND/OR CHANGES FOUND DURING INSTALLATION THAT RESULT FROM LACK OF COORDINATION BY THE CONTRACTORS DURING THE SHOP DRAWING PROCESS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
8. THE DRAWINGS AND SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER AND THEY SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH THE ITEMS SHOWN ON ONE AND NOT THE OTHER BEING FURNISHED AND INSTALLED AS THOUGH SHOWN AND CALLED OUT IN BOTH.
9. DETAILS: THE CONTRACTOR IS RESPONSIBLE TO REVIEW AND USE WHERE APPROPRIATE ALL OF THE MECHANICAL DETAILS SHOWN ON THE DRAWINGS. DETAILS MAY OR MAY NOT BE CALLED OUT ON THE DRAWINGS WITH SYMBOLS OR KEYED NOTES. ANY CHANGES RESULTING FROM FAILURE TO INSTALL THE MECHANICAL SYSTEM WITHOUT USING THE INCLUDED DETAILS IS THE RESPONSIBILITY OF THE CONTRACTOR.
10. PIPING SCHEMATICS: THE CONTRACTOR IS RESPONSIBLE TO REVIEW THE PIPING SCHEMATICS INCLUDED WITH THE DRAWINGS FOR PIPING CONNECTIONS TO ALL MECHANICAL EQUIPMENT. THE PIPING SCHEMATICS SHOW DETAILED CONNECTIONS INCLUDING NECESSARY VALVES, FITTINGS, PRESSURE AND TEMPERATURE GAUGES, ETC., THAT ARE NOT SHOWN ON THE PIPING PLANS. ANY CHANGES RESULTING FROM FAILURE TO INSTALL THE MECHANICAL SYSTEM WITHOUT USING THE INCLUDED PIPING SCHEMATICS IS THE RESPONSIBILITY OF THE CONTRACTOR.
11. THE STRUCTURE SHOWN ON ALL DETAILS MAY OR MAY NOT PERTAIN TO A PORTION OR ANY PORTION OF THE BUILDING. COORDINATE MOUNTING REQUIREMENTS WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS.
12. ANY PART OF THIS INSTALLATION THAT FAILS, IS UNFIT, OR BECOMES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
13. ALL EQUIPMENT SHALL PROVIDE THE SCHEDULED PERFORMANCE AT THE SITE ALTITUDE.
14. EQUIPMENT MODEL NUMBERS IN SCHEDULES ARE SHOWN TO ESTABLISH THE TYPE OF PRODUCT THAT HAS TO BE USED. THE SELECTED PRODUCT MUST MEET THE SCHEDULED PERFORMANCE DATA. THIS MAY REQUIRE A DIFFERENT MODEL NUMBER TO THAT SCHEDULED.
15. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL FITTINGS, TRANSITIONS, VALVES, DAMPERS, AND OTHER DEVICES AND ACCESSORIES REQUIRED FOR A COMPLETE, WORKABLE INSTALLATION.
16. THE DIVISION 15 CONTRACTOR SHALL FURNISH ALL REQUIRED MOTORS. ALL MOTOR STARTING EQUIPMENT, WHEN NOT A PART OF THE EQUIPMENT, WILL BE FURNISHED BY THE ELECTRICAL CONTRACTOR.
17. THE CONTRACTOR IS RESPONSIBLE FOR HVAC EQUIPMENT CHECK–IN, SAFEKEEPING, AND DAMAGE.
18. DO NOT ROUTE DUCTS AND PIPES ABOVE ELECTRICAL PANELS. ALL ELECTRICAL PANELS MUST HAVE CLEAR ACCESS SPACE IN FRONT OF PANEL 4'–0" DEEP AND 6'–6" HIGH.
19. COORDINATE EXACT LOCATIONS OF CEILING DIFFUSERS AND GRILLES WITH ARCHITECTURAL REFLECTED CEILING PLAN.
20. DO NOT USE STEEL ROOF DECK TO SUPPORT LOADS FROM PIPING, DUCTWORK OR EQUIPMENT. HANGER LOADS LESS THAN 50 LBS. MAY BE HUNG FROM THE STEEL ROOF DECK IN CASES WHERE HANGING FROM THE STEEL ROOF DECK CANNOT BE AVOIDED. THE ATTACHMENT METHOD MUST DISTRIBUTE THE LOAD ACROSS THE DECK AS APPROVED BY THE STRUCTURAL ENGINEER.
21. PROPERLY LUBRICATE ALL PIECES OF EQUIPMENT BEFORE TURNING THE SYSTEM OVER TO THE OWNER.

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08

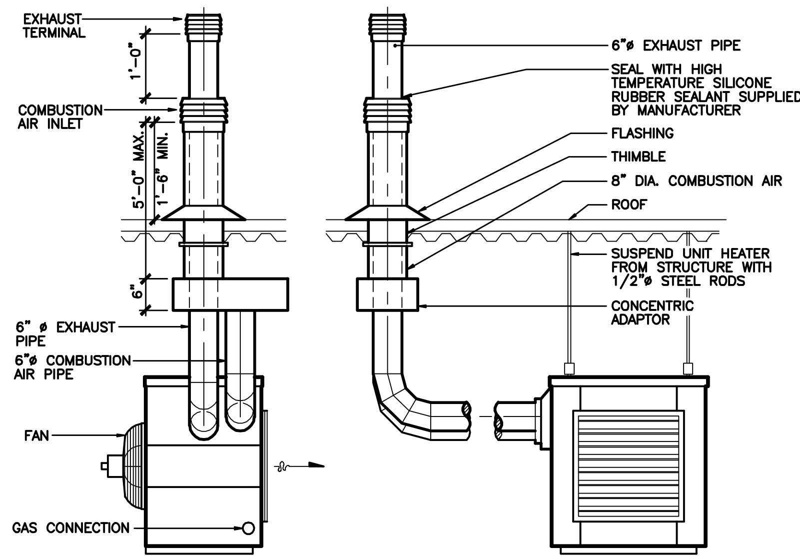
REGISTERED PROFESSIONAL ENGINEER
NO. 171885
FREDERIC J. NASH
STATE OF UTAH

TITLE: MECHANICAL DETAILS
DATE: 01/02/08
DRAWN BY: STS/ARA
PROJECT NO.: DFC 0713

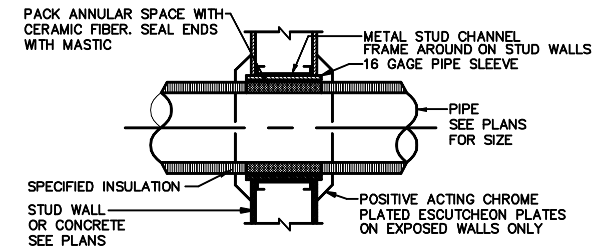
PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR ARCHITECT, L.L.C.
387 PARK LANE
KOAB, UTAH 84532
435.259.1186 PHONE / FAX

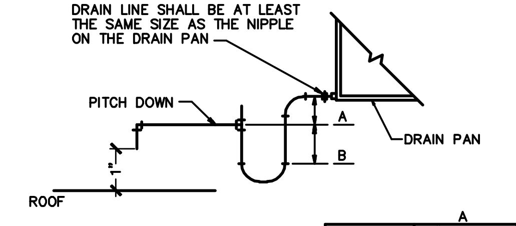
SHEET: M5.1



10 GAS FIRED UNIT HEATER DETAIL
NOT TO SCALE



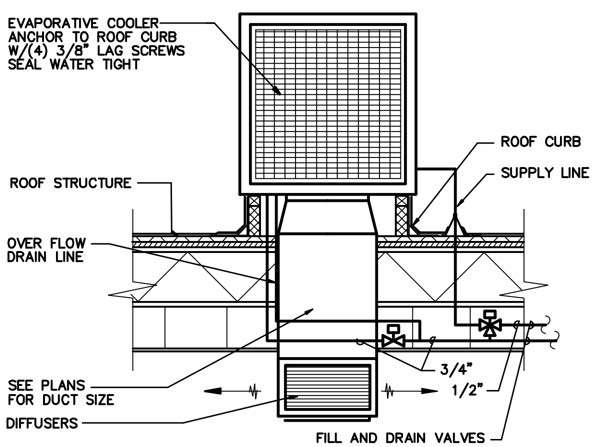
7 PIPE THROUGH WALL
SCALE: NOT TO SCALE



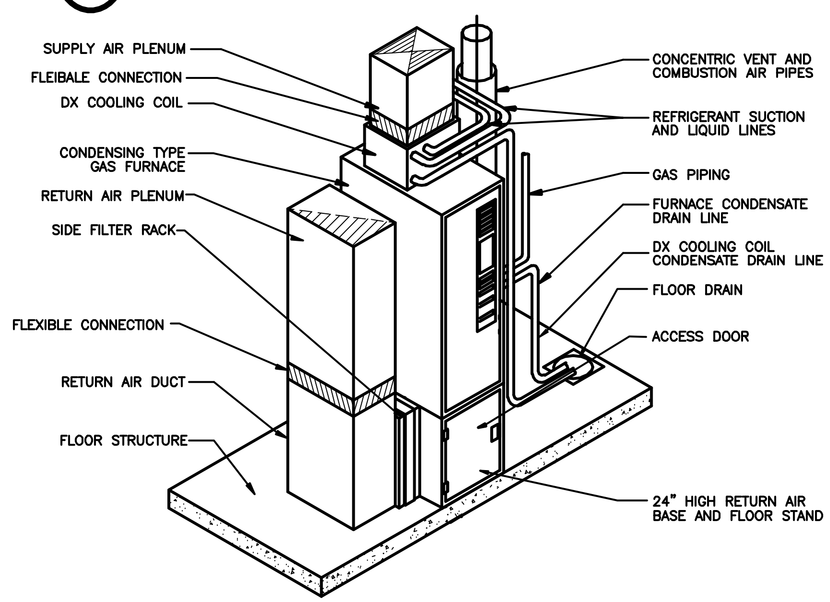
	A	B
DRAW THRU	2" PLUS X	X
BLOW THRU	1" MIN.	2X

WHERE X = STATIC PRESSURE

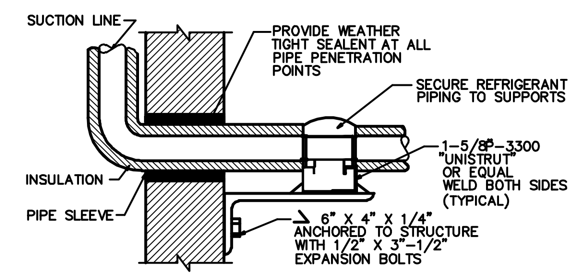
3 AIR CONDITIONING UNIT DRAIN TRAP
SCALE: NOT TO SCALE



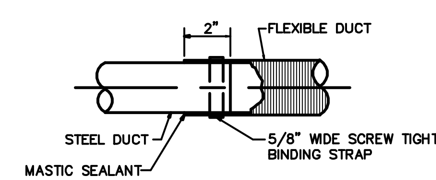
12 EVAPORATIVE COOLER DETAIL
SCALE: NOT TO SCALE



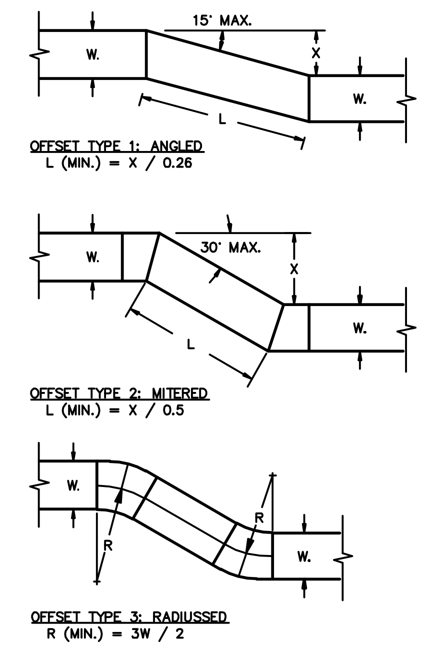
9 UP FLOW FURNACE DETAIL
SCALE: NOT TO SCALE



6 REFRIGERANT PIPE SUPPORT AND PENETRATION AT WALL
SCALE: NOT TO SCALE

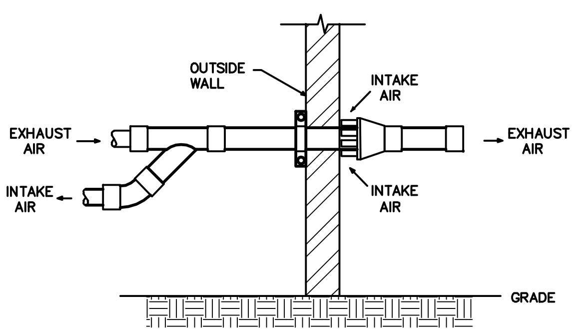


5 FLEXIBLE DUCT CONNECTION
SCALE: NOT TO SCALE

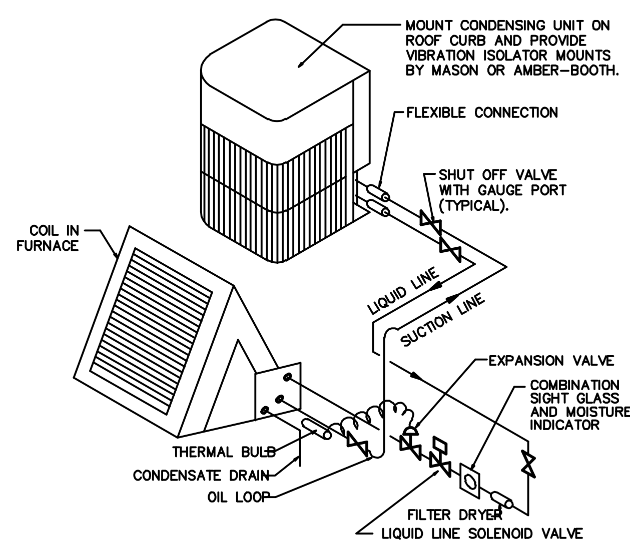


NOTES:
1. UNLESS OTHERWISE INDICATED ON PLANS, MAXIMUM ANGLES SHOWN SHALL APPLY.
2. ALL OFFSETS SHOWN ON DRAWINGS MADE BE MADE WITH ANY OF THE 3 OFFSET TYPES ABOVE.

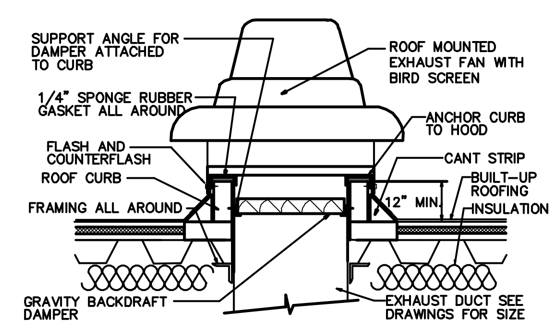
2 DUCT OFFSETS
SCALE: NOT TO SCALE



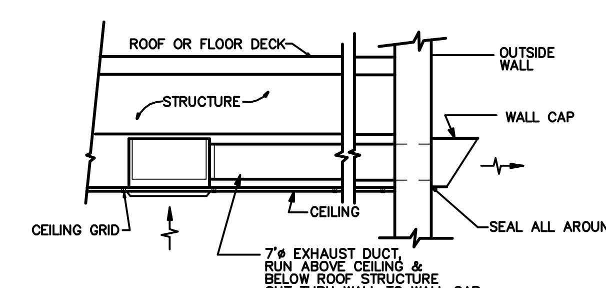
11 CONCENTRIC WALL TERMINATION FOR CONDENSING FURNACES
SCALE: NOT TO SCALE



8 TYPICAL REFRIGERANT SCHEMATIC
SCALE: NOT TO SCALE



4 ROOF MOUNTED EXHAUST FAN
SCALE: NOT TO SCALE



1 CEILING EXHAUST FAN
SCALE: NOT TO SCALE

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08

REGISTERED PROFESSIONAL ENGINEER
NO. 171885
FREDERIC J. NASH
STATE OF UTAH

TITLE: MECHANICAL DETAILS
PROJECT NO.: DFC 0713
DRAWN BY: STS/ARA
DATE: 01/02/08

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1156 PHONE / FAX

SHEET: M5.2

GRILLES AND DIFFUSERS

SYM	DESCRIPTION	SIZE	MAX CFM	MAX NC
CD-1	LOUVERED FACE 4-CONE 4 WAY CEILING DIFFUSERS. FRAME SHALL BE FOR SURFACE OR LAY-IN MOUNTING AS REQUIRED BY CEILING TYPE. LAY-IN FRAMES SHALL BE 24" x 24", 24" x 12" OR 12" x 12" AS REQUIRED TO FIT CEILING TILE SPACE AVAILABLE. PROVIDE ROUND NECK ADAPTER.	6 x 6 8 x 8 9 x 9	125 220 250	30
RG-1	PERFORATED FACE RETURN AIR UNIT, REMOVABLE FACE & CORE. FRAME SHALL BE FOR SURFACE OR LAY-IN MOUNTING AS REQUIRED BY CEILING TYPE. LAY-IN FRAMES SHALL BE 24" x 24", 24" x 12" OR 12" x 12" AS REQUIRED TO FIT CEILING TILE SPACE AVAILABLE. AIR QUANTITY SHALL MATCH ROOM SUPPLY OR EXHAUST AIR QUANTITY.	10 x 10	350	30
L-1	WALL LOUVER. AIROLITE MODEL K6776. 500 FPM THROUGH FREE AREA.	18" X 12"	600	N/A
L-2	WALL LOUVER. AIROLITE MODEL K6776. 500 FPM THROUGH FREE AREA.	48" X 48"	3400	N/A
SWG-1	SIDEWALL SUPPLY GRILLE. DOUBLE DEFLECTION WITH HORIZONTAL FRONT BLADES. 3/4" BLADE SPACING.	8" X 6"	100	N/A

EVAPORATIVE COOLER SCHEDULE

SYMBOL	MANUFACTURER	MODEL NO.	LOCATION	AIR SUPPLY FAN CAPACITY		ELECTRICAL					OPERATING WEIGHT (LBS)	COMMENTS
				CFM	ESP (WG)	MOTOR HP	MOTOR RPM	VOLT	PHASE	HZ		
EC-1	MASTERCOOL	CMC 632 OR HC64	SERVICE BAYS	6,500	0.05	1.0	–	240	1	60	250	(1) (2) (3)
EC-2	MASTERCOOL	CMC 632 OR HC64	SERVICE BAYS	6,500	0.05	1.0	–	240	1	60	250	(1) (2) (3)

1. OPERATING CONDITIONS AT SEA LEVEL
2. 12 INCH CELDEX EVAPORATIVE MEDIA
3. MODEL EP280 WATER PUMP, 115 V., 1 PH., 80 WATTS.

GAS FIRED FURNACE SCHEDULE

SYMBOL	MANUFACTURER AND MODEL NO.	TYPE	OUTPUT BTU/HR. AT JOBSITE ALTITUDE	INPUT BTU/HR.	CFM	FLUE SIZE	GAS CONN.	EXT. S.P. DROP	ELECTRICAL				% AFUE	ACCESSORIES AND REMARKS
									AMPACITY	VOLT	PHASE	Hz.		
F-1	CARRIER 58MTB 060-12	VERTICAL	37,000	39,000	920	1-1/2"	1/2"	0.6	12	120	1	60	93.0%	WITH EVAPORATOR COIL AND CONCENTRIC VENT

EXHAUST FAN SCHEDULE

SYMBOL	MANUFACTURER AND MODEL NO.	TYPE	FAN			ELECTRICAL					OPERATING WEIGHT (LBS.)	CONTROL METHOD	ACCESSORIES AND REMARKS
			CFM	RPM	SP "WG	MOTOR H.P.	MOTOR RPM	VOLT	PHASE	Hz.			
EF-1	BROAN L200	CEILING	200	–	0.25	127 W	740	120	1	60	25	ALWAYS ON	WALL CAP
EF-2	BROAN L100	CEILING	100	–	0.25	76 W	780	120	1	60	15	LIGHT SWITCH	WALL CAP
EF-3	BROAN L200	CEILING	200	–	0.25	127 W	740	120	1	60	25	ALWAYS ON	WALL CAP
EF-4	COOK 210ACW7B	ROOF	5100	935	0.25	1 HP	1450	240	1	60	236	WALL SWITCH	ROOF DOWN DISCHARGE BELT DRIVE INTERLOCK WITH EVAP. COOLER
EF-5	COOK 210ACW5B	ROOF	3400	800	0.25	1/2 HP	1450	120	1	60	123	C.O. CONTROL	ROOF DOWN DISCHARGE BELT DRIVE INTERLOCK WITH LOUVER AND C.O. SENSOR

CONDENSING UNIT SCHEDULE

SYMBOL	MANUFACTURER AND MODEL NO.	REFRIGERANT	CAPACITY @ JOBSITE CONDITIONS BTUH TOTAL COOLING	VOLTS/ PHASE	COMPRESSOR RATED LOAD AMPS (RLA)	MINIMUM CIRCUIT AMPACITY (MCA)	LIQUID LINE CONN. (INCHES)	SUCTION LINE CONN. (INCHES)	EVAP. COIL SYMBOL	OPERATING WEIGHT (LBS.)	ACCESSORIES AND REMARKS
CU-1	CARRIER 24APA5-42	R-22	37,000	120/1	18	24	3/8	7/8	F-1	320	

UNIT HEATER SCHEDULE (PROPANE FIRED)

SYMBOL	MANUFACTURER	MODEL	FUEL	INPUT MBH	OUTPUT MBH	FLUE SIZE	AIR DELIVERY	MOTOR H.P.	VOLTS/ PHASE/ CYCLE	COMMENTS
UH-1, 2, 3, 4	REZNOR	B75	PROPANE	75,000	58,000	5"	1230	1/3	115/1/60	114 LBS.

(1) CONDITIONS AT SITE ALTITUDE.
(2) AIR DELIVERY @ 0.25" S.P.

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08

REGISTERED PROFESSIONAL ENGINEER
NO. 171885
FREDERIC J. NASH
STATE OF UTAH

TITLE: MECHANICAL SCHEDULES

PROJECT NO.: DFC 0713

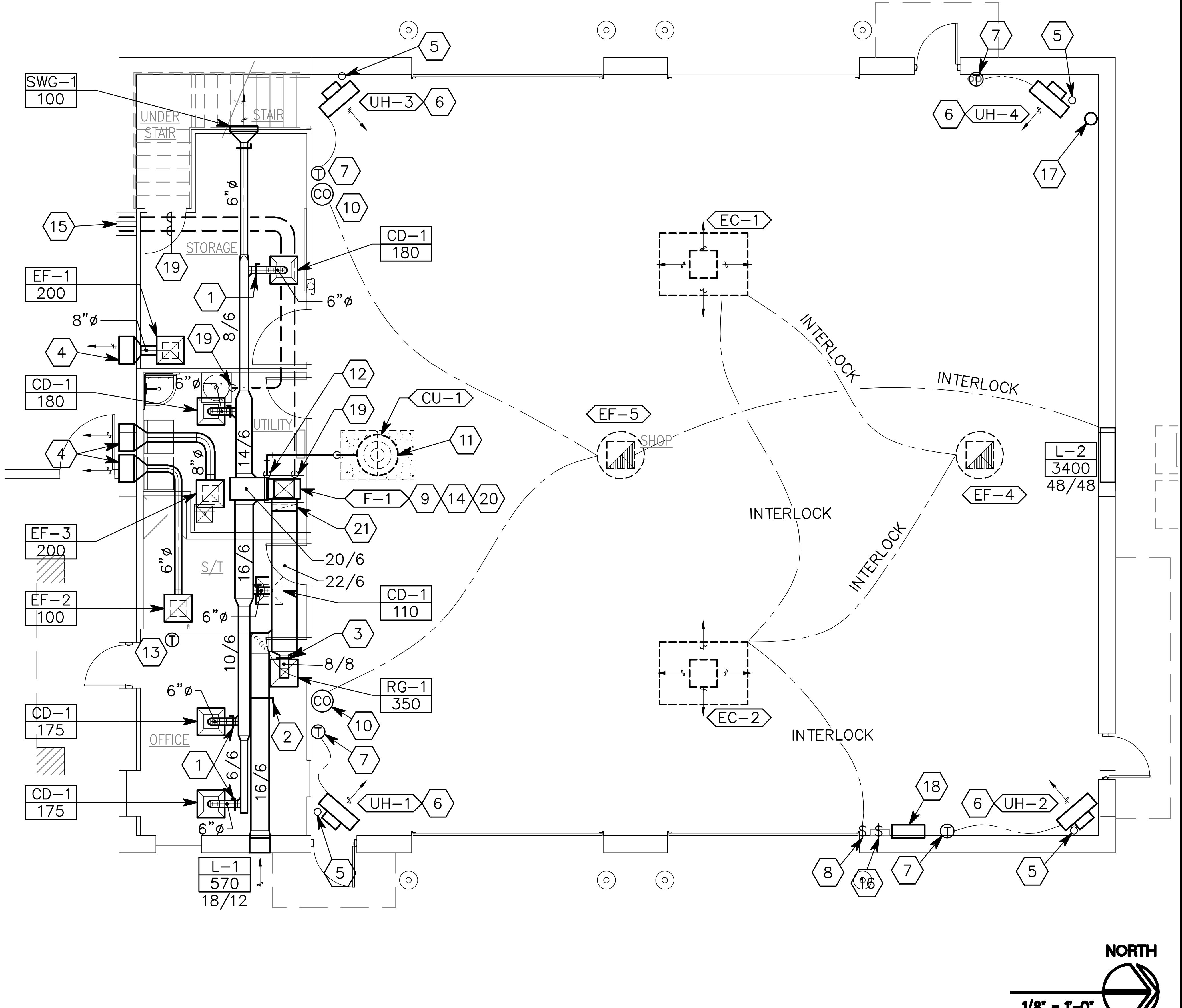
DRAWN BY: STS/ARA

DATE: 01/02/08

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1156 PHONE / FAX

SHEET:
M6.1



SHEET KEYNOTES

1. BALANCING DAMPER (TYPICAL). SET TO OBTAIN CFM SHOWN.
2. SET OUTSIDE AIR DAMPER TO 570 CFM.
3. SET RETURN AIR DAMPER TO 350 CFM.
4. PROVIDE MANUFACTURER'S STANDARD WALL EXHAUST CAP WITH BIRD SCREEN.
5. RUN TYPE-B GAS VENT THROUGH ROOF PER SPECIFICATIONS AND DETAILS. OFFSET VENT TO BE 5 FT. FROM PARAPET WELL.
6. MOUNT BOTTOM OF UNIT 6" ABOVE TOP OF OPEN DOOR.
7. LOCATE HEATING THERMOSTAT AT 5 FT. ABOVE FLOOR.
8. LOCATE WALL SWITCH AT 5 FT. ABOVE FLOOR. SWITCH TO ACTIVATE EVAPORATIVE COOLER AND EXHAUST FAN EF-4.
9. TRANSITION FROM 16/18 SUPPLY CONNECTION TO COOLING COIL AND FROM COOLING COIL TO 20/6 DUCT. PROVIDE TURNING VANES IN ELBOW ABOVE COOLING COIL.
10. MOUNT CO SENSOR ON WALL AND CONNECT TO EXHAUST FAN EF-5 AND TO LOUVER L-2.
11. LOCATE CONDENSING UNIT ON ROOF AND RUN REFRIGERANT LINES ON UNISTRUT UP THROUGH MEZZANINE THROUGH ROOF. RUN PER SPECIFICATIONS AND DETAIL 8 ON DRAWING ME5.02. CONNECT TO FURNACE COOLING COIL PER DETAIL 8 AND PER MANUFACTURER'S REQUIREMENTS.
12. RUN REFRIGERANT LINES UP AND COORDINATE WITH DUCTING IN THIS AREA.
13. LOCATE THERMOSTAT ON WALL AND CONNECT TO FURNACE F-1.
14. MOUNT FURNACE ON 24" HIGH RETURN AIR FLOOR STAND. CONSTRUCT FLOOR STAND OF CHANNEL FRAMING WITH ACCESS DOOR. MOUNT ASSEMBLY ON A 4" CONCRETE C.I.P. HOUSEKEEPING PAD.
15. CONCENTRIC VENTS INLET/EXHAUST. LOCATE HIGH ON SIDEWALL.
16. EVAPORATIVE COOLER FILL/DRAIN SWITCH.
17. RUN TYPE B VENT FROM PROPANE-FIRED STEAM HEATER THROUGH ROOF.
18. C.O. SENSOR CONTROL PANEL.
19. RUN CONCENTRIC VENT LINES TO WATER HEATER AND FURNACE AND CONNECT VENTS AND DRAINS PER MANUFACTURER'S REQUIRMENTS. SEE PLUMBING PLANS FOR FLOOR DRAINS AND COORDINATE FINAL DRAIN LOCATIONS WITH PLUMBER FOR NEATEST LOCATION.
20. MAKE DUCT, PIPE, VENT CONNECTIONS PER DETAILS AND MANUFACTURER'S REQUIREMENTS.
21. DROP 22/6 DUCT DOWN SIDE OF FURNACE AND MAKE SIDE CONNECTION INTO 24" HIGH RETURN AIR BASE AND SIDE CONNECTION INTO UNIT, AS REQUIRED BY UNIT MANUFACTURER.

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08

REGISTERED PROFESSIONAL ENGINEER
NO. 171885
FREDERIC J. NASH
STATE OF UTAH

TITLE: MECHANICAL PLAN

PROJECT NO.: DFC 0713

DRAWN BY: STS/ARA

DATE: 01/02/08

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1136 PHONE / FAX

SHEET: MH1.1

SYMBOL LEGEND

SYMBOL	DESCRIPTION
WIRING DEVICES	
ELECTRICAL POWER AND DISTRIBUTION	
LIGHTING (REFER TO FIXTURE SCHEDULE FOR SYMBOLS)	
(W-3)	FIXTURE IDENTIFICATION: (W-3) INDICATES FIXTURE TYPE AS SCHEDULED.
LIGHTING CONTROL	
⚹	OCCUPANCY SENSOR, DUAL TECHNOLOGY, CEILING.
P	PHOTOCELL.
STRUCTURED CABLING	
▽X	TELEPHONE, WALL MOUNTED ("X" INDICATES QUANTITY OF CABLES).
▽W	TELEPHONE, WALL MOUNTED: WALL PHONE.
◥	OUTLET, BUILDING STANDARD COMBINATION TELEPHONE/ DATA COMMUNICATION.
▬	TELEPHONE TERMINAL BOARD, FIRE TREATED PLYWOOD PAINTED.
TV DISTRIBUTION	
◉	TV OUTLET.
FIRE ALARM	
FSA	FIRE SYSTEM ANNUNCIATOR.
CM	CONTROL MODULE.
P	FIRE ALARM MANUAL PULL STATION.
S	DETECTOR, SMOKE.
S	DETECTOR, SMOKE, DUCT WITH HOUSING AND SAMPLING TUBE.
⊠	STROBE.
WP	ALARM, HORN/SPEAKER, WEATHERPROOF.

SYMBOL LEGEND

SYMBOL	DESCRIPTION
FIRE ALARM	
	ALARM, HORN/STROBE, ONE ASSEMBLY.
S FSD	FIRE AND SMOKE DAMPER.

ELECTRICAL SHEET INDEX

SHEET NO	SHEET TITLE
E0.1	SYMBOL SCHEDULE, SHEET INDEX
E0.2	SYMBOL SCHEDULE
E0.3	PANEL SCHEDULE
E0.4	LIGHTING FIXTURE SCHEDULE
E0.5	LIGHTING FIXTURE SCHEDULE
E0.6	LIGHTING FIXTURE SCHEDULE
E1.1	POWER, FIRE ALARM PLAN
E1.2	MEZZANINE POWER, FIRE ALARM PLANS
E1.3	ROOF POWER PLAN
E2.1	LIGHTING PLAN
E2.2	MEZZANINE LIGHTING PLAN
E5.1	DETAILS
E5.2	DETAILS
E5.3	DETAILS
E6.1	ONE LINE DIAGRAM
E6.2	EQUIPMENT SCHEDULE
E6.3	EQUIPMENT SCHEDULE
E6.4	FIRE ALARM SCHEMATIC

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08

LICENSED PROFESSIONAL ENGINEER
No. 185978
PETER E. JOHANSEN
STATE OF UTAH

TITLE: SYMBOL SCHEDULE, SHEET INDEX

DATE: 01/02/08

DRAWN BY: STS/ARA

PROJECT NO.: DFC 0713

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET: E0.1

SYMBOL LEGEND

SYMBOL	DESCRIPTION
REFERENCE AND LINE SYMBOLS	
1	KEYNOTE INDICATOR.
1	REVISION INDICATOR.
CU–1	EQUIPMENT INDICATOR.
WIRING METHODS	
	WIRING.
A–1,3,5	BRANCH CIRCUIT HOME RUN TO PANELBOARD: NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. LETTER AND NUMBER NOTATIONS IDENTIFY PANEL AND CIRCUIT NUMBERS. USE #12 CONDUCTORS, EXCEPT #10 CONDUCTORS SHALL BE INSTALLED IF DISTANCES EXCEED THOSE SPECIFIED IN SECTION 16120. MINIMUM CONDUIT SIZE IS .75".
1 A–1,3,5	BRANCH CIRCUIT HOME RUN TO PANELBOARD: NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. LETTER AND NUMBER NOTATIONS IDENTIFY PANEL AND CIRCUIT NUMBERS. NUMBER IN BOX REFERS TO THE CONDUCTOR AND CONDUIT SCHEDULE. FOR BRANCH WIRING USE #12 CONDUCTORS, EXCEPT #10 CONDUCTORS SHALL BE INSTALLED IF DISTANCES EXCEED THOSE SPECIFIED IN SECTION 16120.
	CONDUIT STUB. DIMENSION RECORD DRAWINGS AND MARK.
1	CONDUCTOR & CONDUIT ("CC") SCHEDULE INDICATOR. REFER TO ONE–LINE DIAGRAM.
J	JUNCTION BOX.
WIRING DEVICES	
	RECEPTACLE, DUPLEX: NEMA 5–20R.
A	RECEPTACLE, DUPLEX, ABOVE COUNTER: NEMA 5–20R.
DF	RECEPTACLE, DUPLEX, DRINKING FOUNTAIN: CONCEAL WATER COOLER RECEPTACLE BEHIND WATER COOLER. SEE DIVISION 15 SHOP DRAWINGS FOR INSTALLATION REQUIREMENTS.
WP	RECEPTACLE, DUPLEX, WEATHERPROOF: NEMA 5–20R.
	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER: NEMA 5–20R.
	RECEPTACLE, QUADRAPLEX: NEMA 5–20R.

SYMBOL LEGEND

SYMBOL	DESCRIPTION
WIRING DEVICES	
D	RECEPTACLE, DRYER: NEMA 10–30R.
	RECEPTACLE, SPECIAL PURPOSE. PROVIDE RECEPTACLE TO MATCH EQUIPMENT PLUG.
FB#	FLUSH FLOOR BOX. "#" SHOWN ON DRAWINGS. REFER TO WIRING DEVICE SCHEDULE IN SECTION 16140 FOR CONFIGURATION AND DEVICES.
	SWITCH, DIMMER.
X $	SWITCH, SINGLE POLE ("x" INDICATES FIXTURES CONTROLLED).
X $3	SWITCH, THREE–WAY ("x" INDICATES FIXTURES CONTROLLED).
ELECTRICAL POWER AND DISTRIBUTION	
	CIRCUIT BREAKER, MOLDED CASE (ONE–LINE DIAGRAM).
225/3 "1H" 225/3 "1H"	PANELBOARD WITH SUB FEED LUGS (ONE–LINE DIAGRAM).
M	UTILITY METER
	DISCONNECT SWITCH, FUSED.
	DISCONNECT SWITCH, UNFUSED.
	STARTER, COMBINATION WITH DISCONNECT SWITCH.
	PUSHBUTTON.
	PANELBOARD CABINET, SURFACE MOUNTED, 1 SECTION.
	PANELBOARD CABINET, SURFACE MOUNTED, 2 SECTION.

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08

LICENSED PROFESSIONAL ENGINEER
No. 185978
PETER E. JOHANSEN
STATE OF UTAH

TITLE: SYMBOL SCHEDULE
DATE: 01/02/08
DRAWN BY: STS/ARA
PROJECT NO.: DFC 0713

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET: E0.2

PANEL "L1"

VOLTS/PHASE/WIRE:	PANEL SIZE & TYPE:	MAIN SIZE & TYPE:	LOCATION:	CABINET:	NOTES:
120/240 V, 1 PH 3 WIRE	22" W x 6" D, BOLT-ON	600 AMPERE MAIN MLO			

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR, INSULATED GROUND BAR, SUBFEED LUGS

CKT	OCP		LOAD (kVA)			DESCRIPTION	LCL	PHASEOAD		LCL	DESCRIPTION	LOAD (kVA)			OCP		CKT
NO	AMP	POLE	LTG	CO	PWR		kVA	A	B	kVA		LTG	CO	PWR	AMP	POLE	NO
1	20	1	1.5			HIGH BAYS W.	1.9	9.5		8.0	WELDER			8.0	100	2	2
3	20	1	1.5			HIGH BAYS CNTR	1.9		9.5	8.0	–			8.0	–	–	4
5	20	1	1.5			HIGH BAYS E	1.9	1.9		0.4	EAST RECEPT		0.4		20	1	6
7	20	1	0.9			MEZZ LIGHTS	1.1		1.3	0.4	EAST RECEPT		0.4		20	1	8
9	20	1	1.0			BRK OFC EMG LIGHTS	1.3	1.4		0.4	EAST RECEPT		0.4		20	1	10
11	20	1	0.6			EXT WALL PACKS	0.8		1.4	0.8	STH RECEPT		0.8		20	1	12
13	20	1		1.2		MEZZ S. PLGS	1.2	3.2		2.0	DRYER			2.0	40	2	14
15	20	1		0.8		ROOF TOP PLGS	0.8		2.8	2.0	–			2.0	–	–	16
17	20	1		0.4		PHONE BOARD	0.4	1.4		1.0	WASHER		1.0		20	1	18
19	20	1		1.0		FIRE ALARM PANEL	1.0		2.0	1.0	ICE MACHINE		1.0		20	1	20
21	20	1			0.2	F-1	0.2	1.2		1.0	WATER HEATER		1.0		20	1	22
23	20	1			1.0	EVAP EC-1	1.0		3.0	2.0	UTL STRG PLG		2.0		20	1	24
25	20	2			1.0	EC-1	1.0	2.0		1.0	DRNK FNTN PWER		1.0		20	1	26
27	–	–			1.0	–	1.0		2.0	1.0	WST PLGS		1.0		20	1	28
29	20	1			1.0	EVAP EC-2	1.0	2.0		1.0	STH PLGS		1.0		20	1	30
31	20	2			1.0	EC-2	1.0		2.0	1.0	STH PLGS		1.0		20	1	32
33	–	–			1.0	–	1.0	1.3		0.3	EF-3 EF-2			0.3	20	1	34
35	20	2			0.4	EF-4	0.4		0.5	0.1	MEZZ UNIT HEATERS			0.1	20	1	36
37	–	–			0.4	–	0.4	0.6		0.2	TLT RM FANS			0.2	20	1	38
39	20	1			0.5	EF-5	0.5		0.5	0.0	SPARE				20	1	40
41	20	1				SPARE	0.0	0.0		0.0	SPARE				20	1	42
43	20	1			0.3	UNIT HEATRS GRGE	0.3		2.3	2.0	CU-1			2.0	30	1	44
45	20	1			0.4	EF-1, EF-2, EF-3	0.4	3.4		3.0	AIR COMPRESSOR			3.0	60	2	46
47	20	1				SPARE	0.0		3.0	3.0	–			3.0	–	–	48
49	20	1				SPARE	0.0	0.0		0.0	SPARE				20	1	50
51	20	1				SPARE	0.0		0.0	0.0	SPARE				20	1	52
53	20	1				SPARE	0.0	0.0		0.0	SPARE				20	1	54
55	20	1				SPARE	0.0		0.0	0.0	SPARE				20	1	56
57	20	1				SPARE	0.0	0.0		0.0	SPARE				20	1	58
59	20	1				SPARE	0.0		0.0	0.0	SPARE				20	1	60
61	20	1				SPARE	0.0	0.0		0.0	SPARE				20	1	62
63	20	1				SPARE	0.0		0.0	0.0	SPARE				20	1	64
65	20	1				SPARE	0.0	0.0		0.0	SPARE				20	1	66
67	20	1				SPARE	0.0		0.0	0.0	SPARE				20	1	68
69	20	1				SPARE	0.0	0.0		0.0	SPARE				20	1	70
71	20	1				SPARE	0.0		0.0	0.0	SPARE				20	1	72
73	20	1				SPARE	0.0	0.0		0.0	SPARE				20	1	74
75	20	1				SPARE	0.0		0.0	0.0	SPARE				20	1	76
77	20	1				SPARE	0.0	0.0		0.0	SPARE				200	2	78
79	20	1				SPARE	0.0		0.0	0.0	–				–	–	80
81	20	1				SPARE	0.0	0.0		0.0	SPACE				200	2	82
83	20	1				SPARE	0.0		0.0	0.0	–				–	–	84

TOTALS:				
kVA PER PHASE	28	30	CONNECTED TOTAL kVA	58.1
AMPS PER PHASE	232	252	CONNECTED AVERAGE AMPS PER PHASE	242

NEC DIVERSIFIED LOAD CALCULATIONS

LIGHTING 7kVA @125% =	9 kVA	ALL OTHER LOADS @100% =	37 kVA	DIVERSIFIED TOTAL kVA =	58
RECEPTACLES 10kVA @100% =	10 kVA	25% OF LARGEST MOTOR =	0 kVA	AVERAGE AMPS PER PHASE =	240
REMAINDER 4kVA @ 50% =	2 kVA				

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08

No. 185978
PETER E. JOHANSEN
LICENSED PROFESSIONAL ENGINEER
STATE OF UTAH

TITLE: PANEL SCHEDULE
PROJECT NO.: DFC 0713
DRAWN BY: STS/ARA
DATE: 01/02/08

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET: E0.3

File Name: P:\2007\20070547\1Drawings\Sheet\47E03.dwg Last Plotted: 2007/12/27 @ 10:45 AM By: sts

LIGHTING FIXTURE SCHEDULE

NOTE TO BIDDERS: COMPLY WITH SECTIONS 16511, 16521, AND 16570 OF THE SPECIFICATIONS.
REFER TO SPECIFICATIONS FOR IMPORTANT TECHNICAL REQUIREMENTS FOR LIGHTING FIXTURES, BALLASTS, AND LAMPS. THE CATALOG NUMBERS LISTED BELOW HAVE BEEN CAREFULLY PREPARED TO ASSIST BIDDERS IN SELECTING PRODUCTS TO ACHIEVE THE DESIGN CONCEPT, HOWEVER, PRIOR TO BIDDING, EACH MANUFACTURER SHALL COMPARE THE CATALOG NUMBERS SHOWN WITH THE DESCRIPTION AND REQUIREMENTS ON THE DRAWINGS, AND SHALL NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES. SPECIFICALLY INCLUDED IN THIS EVALUATION SHALL BE THE VERIFYING OF PROPER MOUNTING KITS OR ACCESSORIES TO FACILITATE INSTALLATION AS SHOWN AT EACH LOCATION ON THE DRAWINGS. NO ALLOWANCE OR REDRESS WILL BE ALLOWED FOR DISCREPANCIES THAT WERE NOT REPORTED TO THE ARCHITECT/ENGINEER IN TIME FOR CORRECTION OR CLARIFICATION BEFORE THE BID. THE REPORTING OF ANY AMBIGUITY IS THE RESPONSIBILITY OF THE BIDDER. PROVIDE UNIT PRICES AND FIXTURE BRAND SELECTED FOR ADD/DELETE CHANGES FOR EACH FIXTURE TYPES SHOWN WITHIN 48 BUSINESS HOURS OF THE BID DATE. FAILURE TO COMPLY WITH THIS REQUIREMENT MAY DISQUALIFY THE PRODUCTS AND EMPOWER THE ENGINEER TO DETERMINE FAIR VALUE FOR FIXTURE AND INSTALLATION CHANGES, WITHOUT FURTHER INPUT FROM THE CONTRACTOR OR INSTALLER. SUBMITTAL PACKAGE SHALL INCLUDE LAMP MANUFACTURER AND CATALOG NUMBER ON EACH FIXTURE SHEET. ON ALL PENDANT MOUNTED FIXTURES, PROVIDE A SECOND SET OF PENDANTS, OF A DIFFERENT LENGTH, AS DIRECTED BY THE ARCHITECT/ENGINEER, PROVIDED AND INSTALLED AT NO ADDITIONAL CHARGE. ALL FIXTURES SHALL BE APPROVED BY UL OR ANOTHER ACCEPTABLE TESTING LAB FOR THE PURPOSE INTENDED AND WITH THE LAMP AND BALLAST PROPOSED. CONTRACTOR ALLOWANCE PRICES ARE ACCURATE WHEN THIS JOB WAS SPECIFIED, CONTRACTOR AND ELECTRICAL DISTRIBUTOR SHALL VERIFY THIS ALLOWANCE AND REPORT ANY PROBLEMS TO THE ENGINEER BEFORE THE BID. ALLOWANCE PRICE MAY OR MAY NOT INCLUDE LAMP(S) OR FREIGHT AS NOTED, AND DO NOT INCLUDE ANY TAXES. UNIVERSAL VOLTAGE (120/277) BALLASTS REQUIRED UNLESS NOTED OTHERWISE.

SYMBOL	MARK	FIXTURE CHARACTERISTICS BODY / AIR / MOUNTING / DOOR LENS/LOUVER/REFLECTOR/OTHER	LAMP	WATTS	VOLTS	MANUFACTURER	CATALOG NUMBER	NOTES
	DF	FLUORESCENT DOWNLIGHT; THERMALLY PROTECTED HOUSING: TO ACCOMMODATE MULTIPLE TRIMS AND REFLECTOR ASSEMBLIES FOR LAMPS AS LISTED BELOW; ELECTRONIC BALLASTS; LOW IRIDESCENT REFLECTOR FINISH (EVEN IF NOT SHOWN IN CATALOG #); SELF FLANGING TRIM UNLESS NOTED.						
	DF-47	RECESSED DOWNLIGHT; SHOWER LIGHT TRIM, 9" APERTURE, HORIZONTAL, 32W CF-AMALGAM LAMP. GASKET.	1-CF-A32 50W RE835		277/120V	OMEGA	OM61H32PLTSRD-SWR (24-13/16 X 14-1/2 X 6-3/16)	
						INFINITY	PVSL68 132T-EB (GX24Q-3) 277 BH (16-1/4 X 14-7/16 X 7-7/8)	
						LIGHTOLIER	8097CWHW/7132BU (15 X 12-3/4 X 6-1/2)	
						HALO	C7132-1E-7180LI-120 (14 X 13-5/16 X 8)	
						PRESCOLITE	CFT832HEB-WTT2F (16-1/4 X 14-7/16 X 7-1/8)	
						LITHONIA	LGF-132TRT9 RW DOLGSGT MVOLT (17-3/4 X 17-1/4 X 8-5/8)	
	E3	EXIT SIGN: CAST ALUMINIUM HOUSING; UNIVERSAL MOUNTING; UNIVERSAL ARROWS PER PLANS; EMERGENCY BATTERY PACK WITH 10 YEAR PRO-RATA WARRANTY; LED, DIFFUSE LENS PANEL; GREEN LETTERS ON WHITE BACKGROUND. MUST MEET NFPA ILLUMINATION STANDARDS.						
	E3-1	SINGLE FACE:	LED	1W	120/277V	DUAL-LITE	LCSGWE	
						EELP	CA 1G WW EM	
						LITHONIA	LES W 1 G 120/277 ELN	
						SURE-LITES	CX7170GW	
						MCPHILBEN	ER55L-1-12/27-WG	
						CHLORIDE	CXLN1GW	
						LIGHTOLIER	LDN1GW	
	EL	LOW PROFILE SELF-CONTAINED EMERGENCY LIGHT; FULLY ADJUSTABLE HEADS; FIXED TEST SWITCH, INDICATOR; 90 MINUTE OPERATION; LOW VOLTAGE DISCONNECT; 5 YEAR PRO-RATA WARRANTY.					CHARGE RATE	
	EL-1	TWO-HEADED UNIT, SURFACE MOUNTED.	LAMPS INC?D	15W	120/277V	DUAL-LITE	EZ-2	
						EELP	EM-1	
						LITHONIA	ELM2	
						SURE-LITES	CC-3	
						MCPHILBEN	CT6	
						LIGHTOLIER	E112LT6W	

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08

LICENSED PROFESSIONAL ENGINEER
No. 185978
PETER E. JOHANSEN
STATE OF UTAH

TITLE: LIGHTING FIXTURE SCHEDULE
DATE: 01/02/08
DRAWN BY: STS/ARA
PROJECT NO.: DFC 0713

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET:
E0.4

HB	HIGH BAY INDUSTRIAL HID FIXTURES: CAST ALUMINUM BALLAST HOUSING; HIGH POWER FACTOR BALLAST; ADJUSTABLE SPUN ALUMINUM REFLECTOR; MANUFACTURER SHALL RECOMMEND SETTINGS FOR EACH SPACE AND/OR REFLECTOR SIZE WHERE MORE THAN ONE IS OFFERED TO ACHIEVE ACTUAL S/MH REQUIREMENTS; FUSED. PROVIDE MULTI-TAP BALLASTS (120,208,240,277 VOLT) UNLESS SPECIFIED OTHERWISE. USE LAMP APPROVED FOR USE IN OPEN FIXTURES IF FIXTURE USED IS OPEN, OTHERWISE USE ENCLOSED FIXTURE. PROVIDE CAST POWER HOOK WITH RECEPTACLE, POWER CORD WITH PLUG, AND SAFETY CABLE FOR SUSPENDING FIXTURES FLUSH WITH THE BOTTOM OF THE TRUSSES, UNLESS OTHERWISE INDICTED. RATED FOR 55 DEGREES C. PROVIDE WIREGUARDS FOR OPEN FIXTURES, AND HINGED LENSES/COVERS FOR ENCLOSED FIXTURES.					
EHB-8	450W PSMH, OPEN WITH WIREGUARD. USE OPEN FIXTURE RATED LAMP. QUARTZ RESTRIKE.	450MH Q250	510W	MTB	LITHONIA	THS 450MP A16 TB WGA16-QRS/PPH/LCPP/SCK SF SCWA
					LUMARK	MPHB-SA18-M-450-F1-MT-WG18-SCF-Q-TPPH-F/F /FL-1
					DAYBRITE	HBO-450P-MT-A17-WGN17-SF-Q(250)-PBCH-BSC3
					HUBBELL	BL-450W8-BI/BL-SOF/BL-TLRX/PHEXXX/RG14/QSS
					G.E.	GHBB45P0A520V6FJQ-RHBTF-H2000NE-SFC5-B
					EXCELINE	BYH14450PMA-WG-K717BX-8-F-723CP
OC	WALL PACK: ADJUSTABLE CUT OFF; FULL PERIMETER GASKETING: WET LOCATION; STAINLESS STEEL HINGES AND LATCHES; PROJECTING LENS; HPF BALLAST; SEE ELEVATION FOR MOUNTING HEIGHT, COLOR AS SPECIFIED BY ARCHITECT.					
OC-32	CF42, RECESSED J BOX. MEDIUM THROW, SQUARE, DECORATIVE	CF42 RE835	50W	277/120V	MCPHILBEN	101MT-42TRF-CBA-DT
					LSI	GBWS-FTM-42CFL-F-120/277-XX-NO
					LITHONIA	WST 42TRT MD MVOLT
					LUMARK	PLIP-T-42-MT-XX
					LSI	GBWS FTM 42CFL F UE XXX W/LAMP
Q3	PARABOLIC LOUVER FIXTURES WITH 3" LOUVERS IN PLASTIC PROTECTORS AND FULL DEPTH REFLECTOR; SIZE AS NOTED; PROGRAM START ELECTRONIC BALLASTS PER SPECS; T8 LAMPS; ONE BALLAST PER FIXTURE UNLESS NOTED FOR SWITCHING; STATIC OR AIR RETURN AND HEAT REMOVAL; EARTHQUAKE CLIPS INSTALLED ON GRID FIXTURES; HINGED AND LATCHED DOOR; LOW IRIDESCENT LOUVER FINISH, VERTICAL GRAIN DIE STAMPED LOUVERS; TWO FORMED BALLAST COVERS; MAX 1300 CD/M2 ABOVE 45 DEGREES.					
Q3-6	2X4, 18 CELL FLANGE; SEMI-SPECULAR SILVER. STATIC.	3-F32T8 RE835	95W	277/120V	LITHONIA	2PM3NFB-332-18LD-MVOLT-1/3TUBRHP-2R
					DAYBRITE	2P3FS332-36SL-UNV-1/3-EB-SPEC
					METALUX	2EP3FX-332S36I-UNV-PROGRAM START-2BC
					COLUMBIA	P4D24-332G-LD36-S-3EB8LHPRUNV-FK24
					LIGHTOLIER	DPS2F18LP332-U-03P
					LSI	N2PF18 332 FD SSO10PS 2BC UE
S	FLUORESCENT STRIP LIGHT: STEEL CONSTRUCTION; WHITE PAINTED FINISH; SUITABLE FOR MOUNTING ON LOW DENSITY CEILINGS; PROGRAM START ELECTRONIC BALLASTS; T8 LAMPS; ONE BALLAST PER FIXTURE WHERE POSSIBLE, UNLESS TWO LEVEL SWITCHING IS SHOWN ON THE PLANS.					
S-3	4', 2-LAMP.	2-F32T8 RE835	65W	277/120V	LITHONIA	C232-MVOLT-TUBRHP
					LIGHTOLIER	SW232-U-SOP
					METALUX	SS-232-UNV-PROGRAM START
					DAYBRITE	T232-UNV-1/2-EB-SPEC
					HUBBELL	C232UPS
					COLUMBIA	CS4-232-EB8120/277 PROG
SA	GENERAL PURPOSE INDUSTRIAL: WHITE ENAMEL, APERTURED REFLECTOR; PROGRAM START ELECTRONIC BALLASTS; T8 LAMPS; ONE BALLAST PER FIXTURE WHERE POSSIBLE; UNLESS TWO LEVEL SWITCHING IS SHOWN ON THE PLANS; CHAIN MOUNTED WITH TONG HANGERS.					
SA-1	4', 2-LAMP.	2-F32T8 RE835	65W	277/120V	LITHONIA	EJA232-MVOLT-TUBRHP-THUN
					LIGHTOLIER	KWA232-U-SOP
					METALUX	IA-232-UNV-PROGRAM START
					HUBBELL	IG142R-PP10-UPS
					COLUMBIA	CSR4-232U-EB8120/277 PROG-CSTH
					DAYBRITE	IA232-UNV-1/2-EB-SPEC

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08

LICENSED PROFESSIONAL ENGINEER
No. 185978
PETER E. JOHANSEN
STATE OF UTAH

TITLE: LIGHTING FIXTURE SCHEDULE
DATE: 01/02/08
DRAWN BY: STS/ARA
PROJECT NO.: DFC 0713

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET:
E0.5

TX	SPECIAL FIXTURES AS INDICATED. MEET ALL REQUIREMENTS OF SPECIFICATIONS AND FIXTURE SCHEDULE. VISUAL AND FINISH APPROVAL REQUIRED.					
TX–1	COLUMN SCONCES	LAMPS	WATTS	VOLTS	MANUF	CATALOG NUMBER
		PAR 20	50	120	BK LIGHITNG	OK–48–VER–9–11 POWDER COAT VERDE GREEN
W	LOW PROFILE WRAPAROUND: SURFACE MOUNTED SUITABLE FOR MOUNTING ON LOW DENSITY CEILINGS WRAPAROUND ACRYLIC PRISMATIC DIFFUSER; WHITE ENAMEL ENDPLATES; MINIMUM CU OF 70 @ 80/50/20 AND RCR=1; PROGRAM START ELECTRONIC BALLASTS; T8 LAMPS; ONE BALLAST PER FIXTURE WHERE POSSIBLE, UNLESS TWO LEVEL SWITCHING IS SHOWN ON THE PLANS.					
W–3	NARROW BODY WRAPAROUND; 2–LAMP, APPROX; 3" X 10" X 48".	2–F32T8 RE835	65W	277/120V	LITHONIA	LB232–MVOLT–TUBPHP
					DAYBRITE	CAN232–UNV–1/2–EB–SPEC
					METALUX	WS–232A–UNV–PROGRAM START
					LIGHTOLIER	WA232–U–SOP
					LSI	PR 232 SSO10PRS UE
					COLUMBIA	WC4–232–EBPS120/277
WB	WALL MOUNTED FLUORESCENT LOCATED ABOVE WALL ELEMENT (MIRROR/WHITEBOARD, ETC.): AS INDICATED ON DRAWINGS; WITH ACRYLIC INJECTION MOLDED; PROGRAM START ELECTRONIC BALLASTS; T8 LAMPS; ONE BALLAST PER FIXTURE WHERE POSSIBLE, UNLESS TWO LEVEL SWITCHING IS SHOWN ON THE PLANS.					
WB–3	2–LAMP, WALL MOUNT 48", STEEL ENCLOSURE, DOWNLIGHT ONLY; ACRYLIC INJECTION MOLDED PRISMATIC DIFFUSER.	2–F32T8 RE835	65W	277/120V	DAYBRITE	CD232W–UNV–1/2–EB–SPEC
					LIGHTOLIER	CWB232–WB–U–SOP
					METALUX	BI–232–UNV–PROGRAM START
					L.A.L.	BSQ100–2–4R–INJ–WHT–T8EB–120/277–UPS
					COLUMBIA	WAL4–232–EBPS120/277
					LITHONIA	WP 232 DO MVOLT–TUBPHP
					LSI	WB 232 SSO10PRS UE

ISSUE / REVISONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08

LICENSED PROFESSIONAL ENGINEER
No. 185978
PETER E. JOHANSEN
STATE OF UTAH

TITLE: LIGHTING FIXTURE SCHEDULE

DATE: 01/02/08

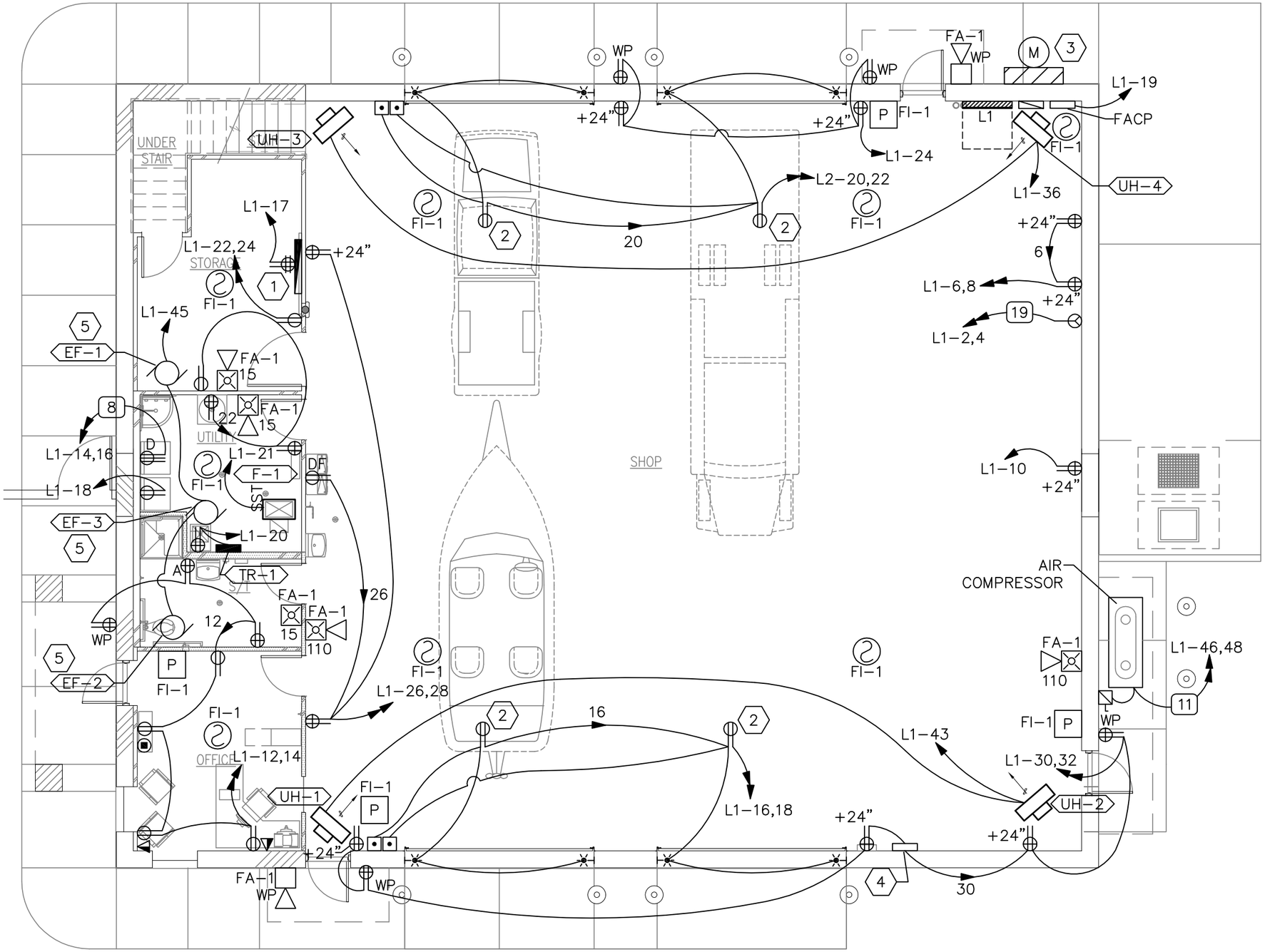
DRAWN BY: STS/ARA

PROJECT NO.: DFC 0713

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET:
E0.6



SHEET KEYNOTES

1. 4'x4' BACK BOARD FOR PHONE. RUN ONE 4" CONDUIT TO TELECOMMUNICATION PROVIDERS PEDESTAL.
2. POWER FOR GARAGE DOORS. DIVISION 16 IS RESPONSIBLE FOR ALL ELECTRICAL CONNECTIONS.
3. METER AND MAIN DISCONNET.
4. POWER TO C02 SENSOR PANEL. SEE MH1.1.
5. CONTROL FAN VIA ROOM OCCUPANCY DETECTOR.

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08

LICENSED PROFESSIONAL ENGINEER
No. 185978
PETER E. JOHANSEN
STATE OF UTAH

TITLE: **POWER, FIRE ALARM PLAN**
DATE: 01/02/08
DRAWN BY: STS/ARA
PROJECT NO.: DFC 0713

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

NORTH
1/8" = 1'-0"

SHEET: E1.1

File Name: P:\2007\20070547\1Drawings\Sheet\47E11.dwg Last Plotted: 2007/12/27 @ 10:46 AM By: sts

GEN. SHEET NOTES

1. RUN .75" CONDUIT FROM ALL VOICE/DATA RACK TO PHONE BOARD.

1/8" = 1'-0"

NORTH

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08

LICENSED PROFESSIONAL ENGINEER
No. 185978
PETER E. JOHANSEN
STATE OF UTAH

TITLE: MEZZANINE POWER, FIRE ALARM PLANS

DATE: 01/02/08

DRAWN BY: STS/ARA

PROJECT NO.: DFC 0713

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

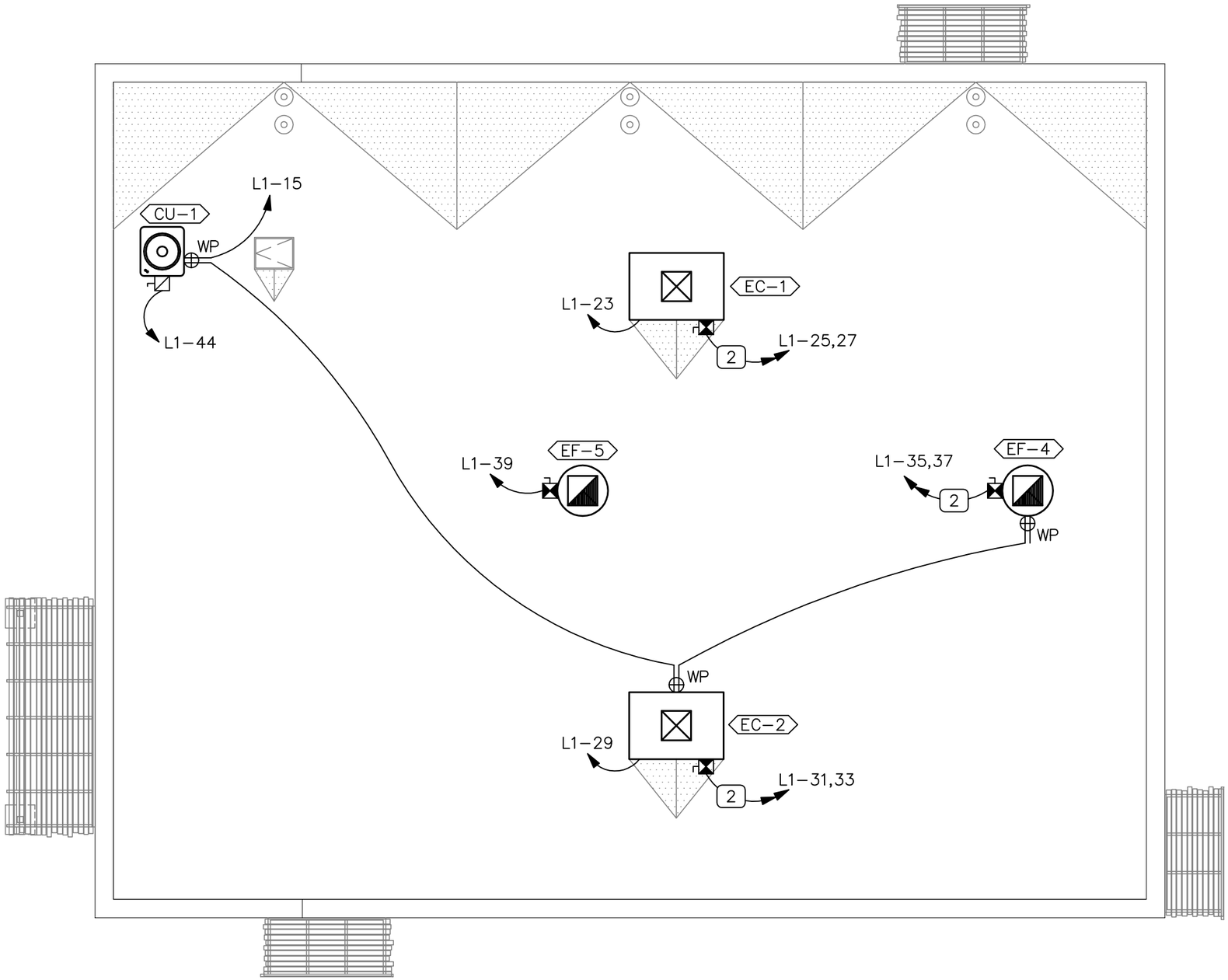
JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET: E1.2

File Name: P:\2007\20070547\1Drawings\Sheet\47E12.dwg Last Plotted: 2007/12/27 @ 10:47 AM By: sts

SHEET KEYNOTES

1. PROVIDE C02 SENSOR AND TIE IN WITH EXHAUST FAN CONTROLS.
2. INTERLOCK WITH EVAP COOLERS.



NORTH

1/8" = 1'-0"

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08

No. 185978
PETER E. JOHANSEN
LICENSED PROFESSIONAL ENGINEER
STATE OF UTAH

TITLE: ROOF POWER PLAN

DRAWN BY: STS/ARA

PROJECT NO.: DFC 0713

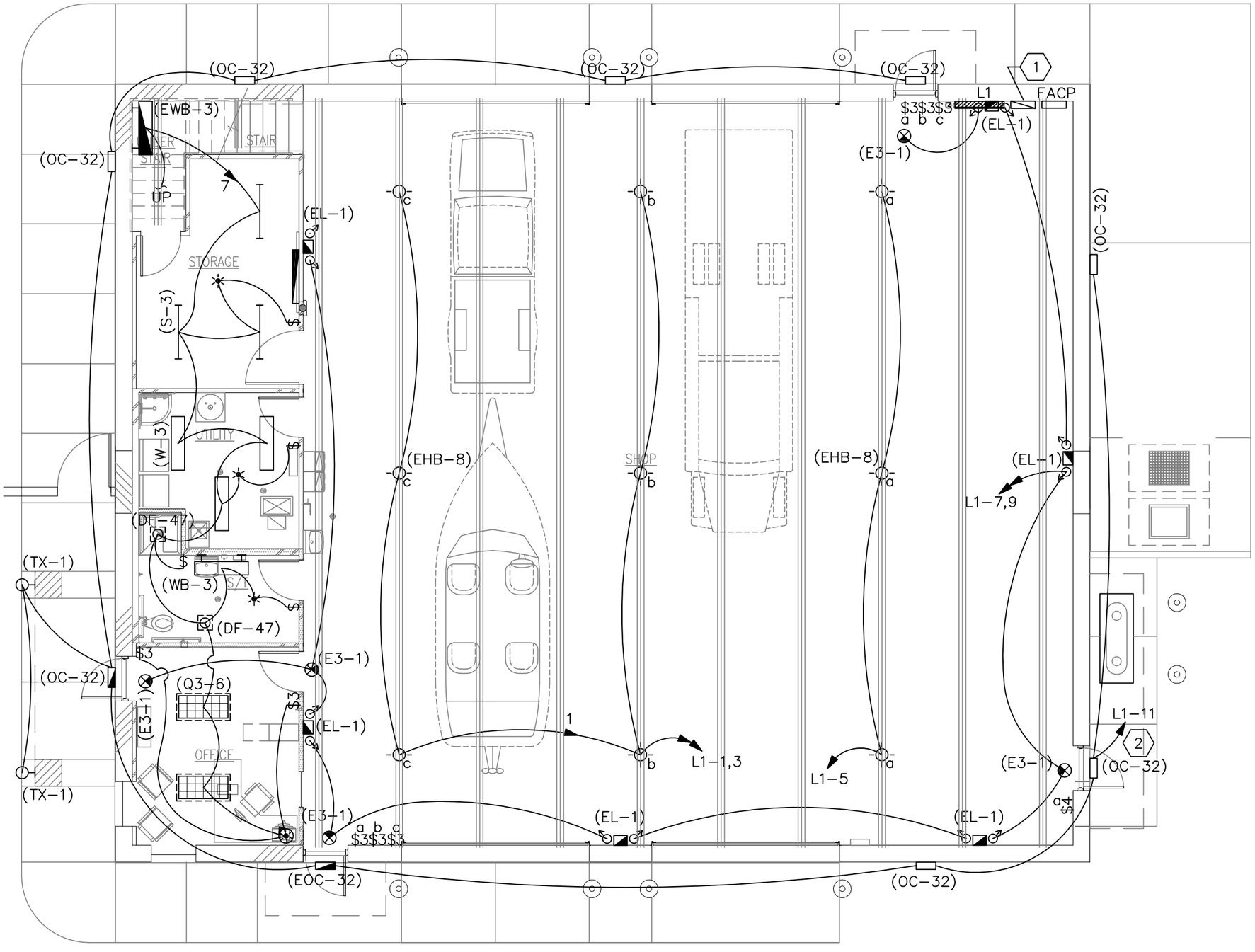
DATE: 01/02/08

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET:
E1.3

File Name: P:\2007\20070547\1Drawings\Sheet\47E13.dwg Last Plotted: 2007/12/27 @ 10:47 AM By: sts



GENERAL SHEET NOTES

1. DO NOT SWITCH EMERGENCY EGRESS FIXTURES OF EXIT SIGNS.

SHEET KEYNOTES

1. LIGHTING CONTACTOR PANEL.
2. ROUTE THROUGH PHOTOCELL ON/OFF LIGHTING CONTACTOR PANEL.

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08

LICENSED PROFESSIONAL ENGINEER
No. 185978
PETER E. JOHANSEN
STATE OF UTAH

TITLE: **LIGHTING PLAN**

PROJECT NO.: DFC 0713

DRAWN BY: STS/ARA

DATE: 01/02/08

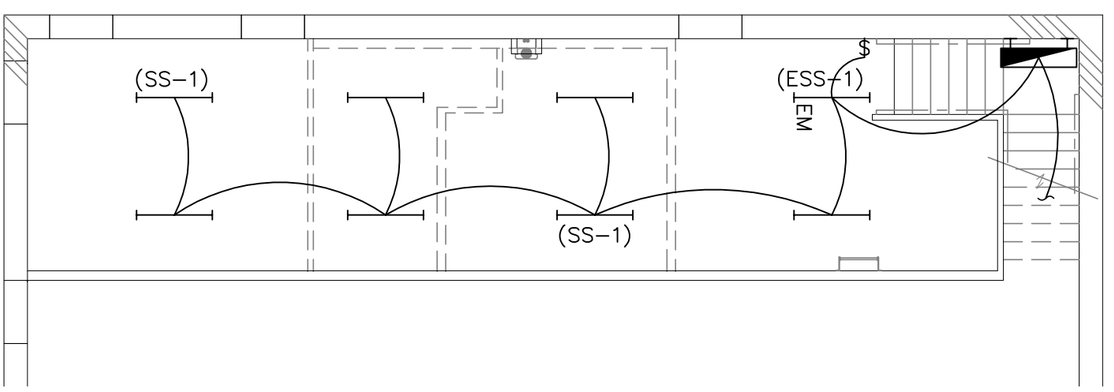
PROJECT:
STATE OF UTAH
DMSION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET: E2.1

NORTH
1/8" = 1'-0"

File Name: P:\2007\20070547\1Drawings\Sheet\47E21.dwg Last Plotted: 2007/12/27 @ 10:48 AM By: sts



GEN. SHEET NOTES

1. DO NOT SWITCH EMERGENCY EGRESS FIXTURES OR EXIT SIGNS.

1/8" = 1'-0"
NORTH

SHEET: E2.2

JAMES T. DRESSLAR ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

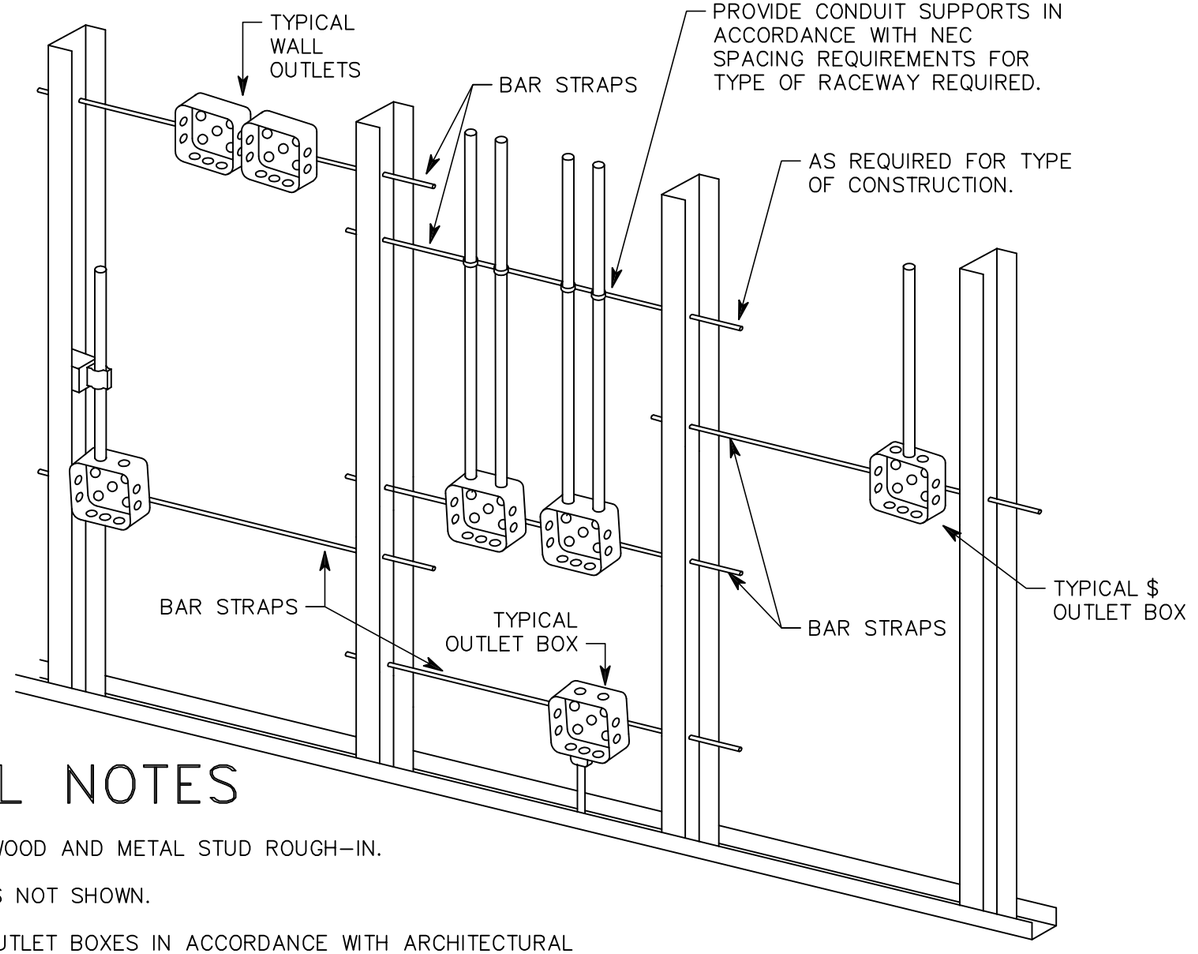
PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

TITLE:
MEZZANINE
LIGHTING PLAN

DATE:	DRAWN BY:	PROJECT NO.:
01/02/08	STS/ARA	DFC 0713

LICENSED PROFESSIONAL ENGINEER
STATE OF UTAH
No. 185978
PETER E. JOHANSEN

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08



GENERAL NOTES

1. TYPICAL FOR WOOD AND METAL STUD ROUGH–IN.
2. PLASTER RINGS NOT SHOWN.
3. LOCATE ALL OUTLET BOXES IN ACCORDANCE WITH ARCHITECTURAL AND MECHANICAL DRAWINGS AND WITH ALL APPLICABLE SHOP DRAWINGS.
4. IN ACCORDANCE WITH IBC 711.3.2 EXCEPTION 1, OUTLETS ON OPPOSITE SIDES OF WALLS OR PARTITIONS IN THE SAME STUD SPACE IN A RATED FIRE SEPARATION WALL MUST BE SEPARATED BY A MINIMUM OF 24" HORIZONTAL DISTANCE.
5. IN NON–RATED WALLS, OUTLETS ON OPPOSITE SIDES OF WALLS OR PARTITIONS MUST BE SEPARATED BY 16" FOR SOUND ATTENUATION.

1 TYPICAL ROUGH–IN REQUIREMENTS DETAIL

NTS

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08

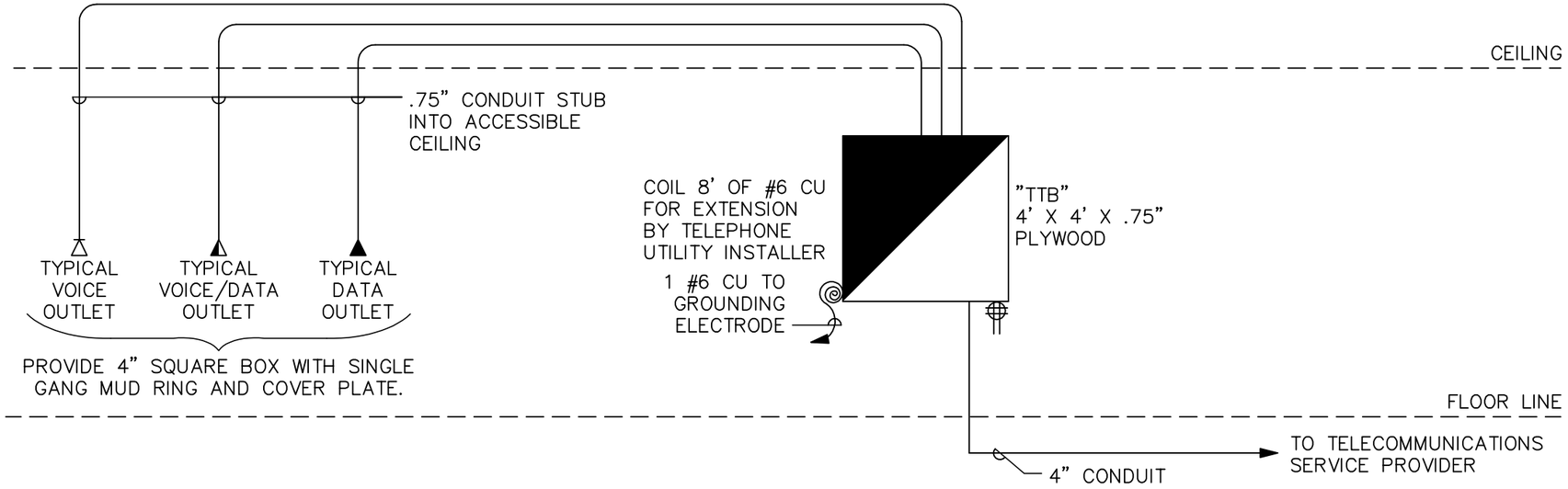
LICENSED PROFESSIONAL ENGINEER
No. 185978
PETER E. JOHANSEN
STATE OF UTAH

TITLE: DETAILS
DRAWN BY: STS/ARA
PROJECT NO.: DFC 0713
DATE: 01/02/08

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

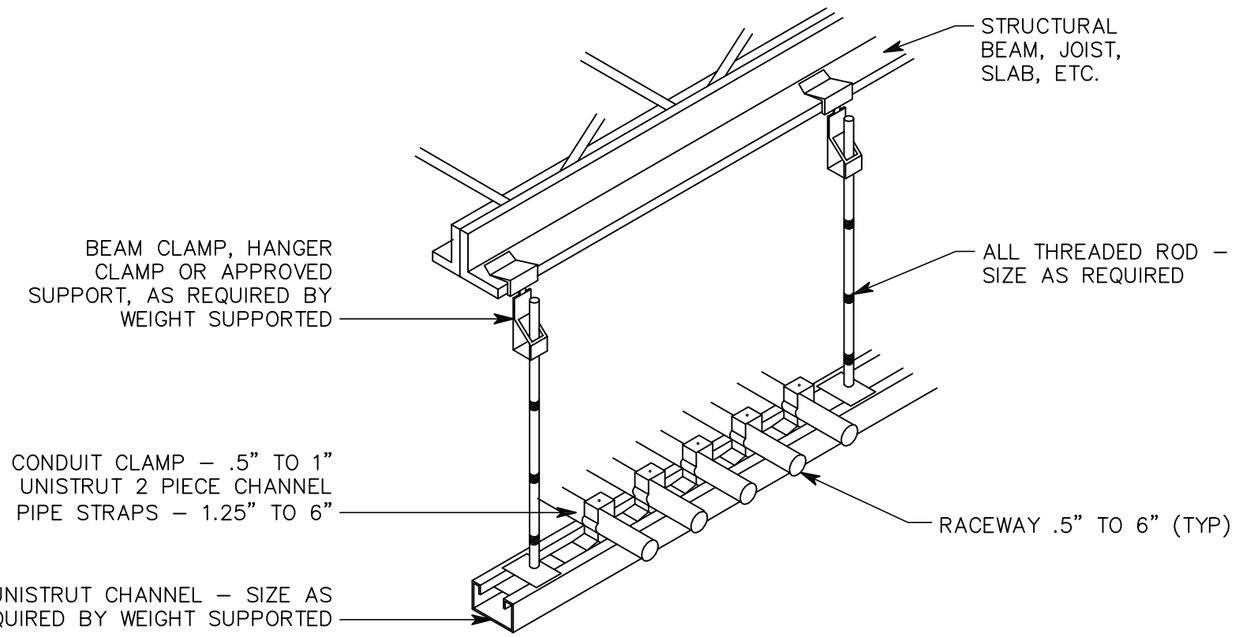
JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET: E5.1



2 VOICE/DATA RISER

NTS



1 TYPICAL CONDUIT RACK DETAIL

NTS

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08

LICENSED PROFESSIONAL ENGINEER
No. 185978
PETER E. JOHANSEN
STATE OF UTAH

TITLE: DETAILS

DATE: 01/02/08

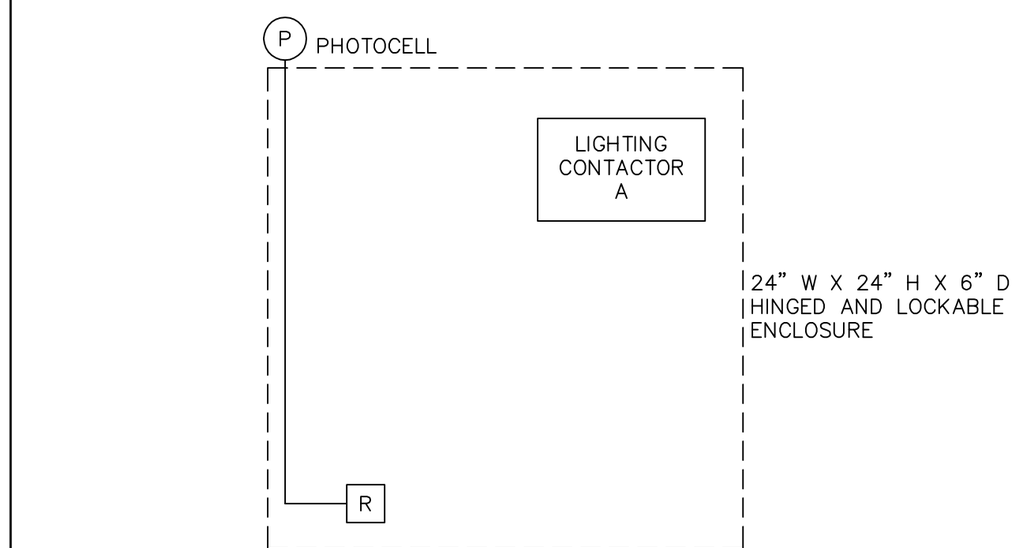
DRAWN BY: STS/ARA

PROJECT NO.: DFC 0713

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET: E5.2



1 LIGHTING CONTROL DIAGRAM

NO SCALE

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08

LICENSED PROFESSIONAL ENGINEER
No. 185978
PETER E. JOHANSEN
STATE OF UTAH

TITLE: DETAILS

DATE: 01/02/08

DRAWN BY: STS/ARA

PROJECT NO.: DFC 0713

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET: E5.3

CONDUCTOR AND CONDUIT SCHEDULE

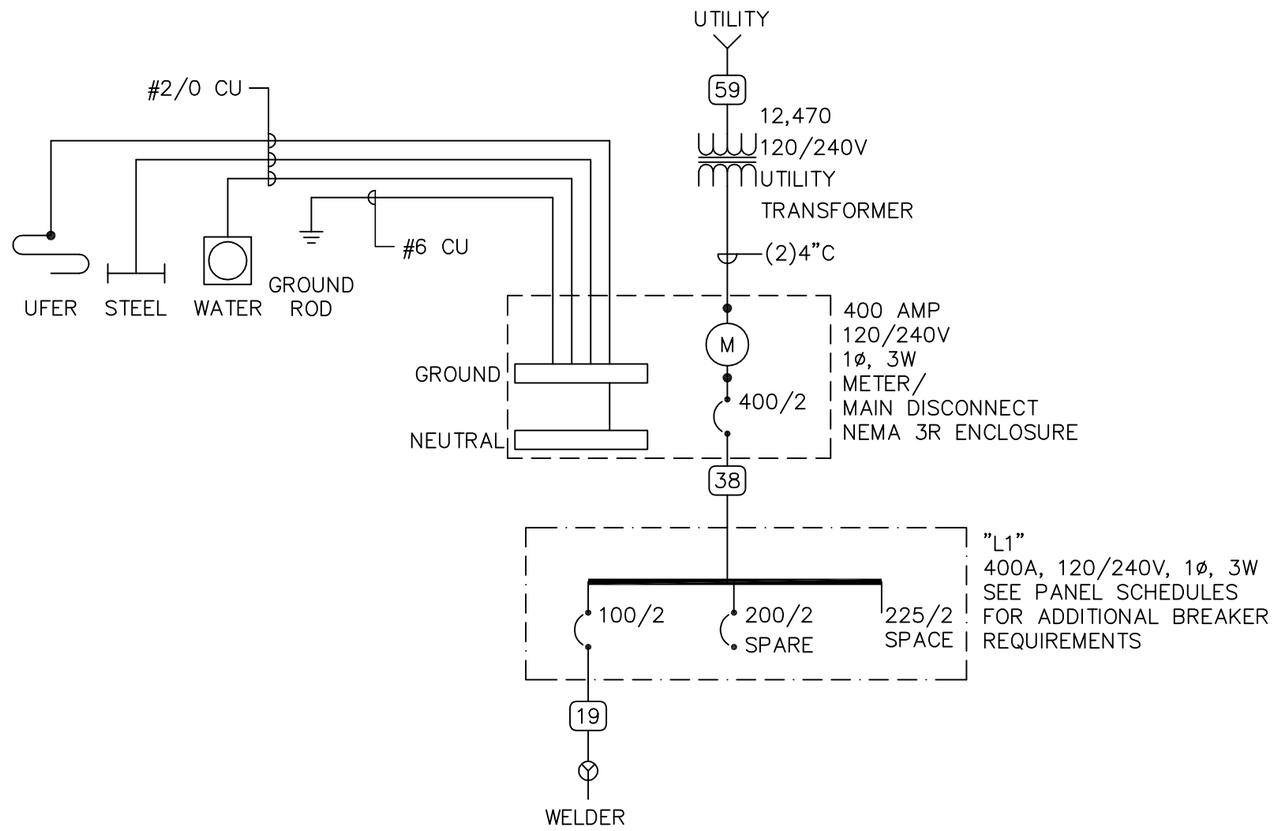
(**) SCHEDULE NUMBER
* SUBSCRIPT (NOTE 5)

(E.G.) (5)IG

SYM	AMP	CONDUIT SIZE	CONDUCTOR(NOTE 1)			IG	SE	NOTES
			QTY	SIZE	G			
(1)	20	.75	2	12	12	12	8	2
(2)	20	.75	3	12	12	12	8	2,3
(3)	20	.75	4	12	12	12	8	2,3
(4)	30	.75	2	10	10	10	8	2
(5)	30	.75	3	10	10	10	8	2
(6)	30	.75	4	10	10	10	8	2
(7)	40	1	2	8	10	8	6	2
(8)	40	1	3	8	10	8	6	2
(9)	40	1	4	8	10	8	6	2
(19)	95	1.25	3	2	8	2	2	2
(29)	230	2.50	3	4/0	4	2	2/0	2
(30)	230	2.50	4	4/0	4	2	2/0	2
(38)	400	2 EA 2.50	4	3/0	3	3/0	3/0	2
(41)	620	2 EA 3	3	350	1/0	4/0	3/0	2,4
(42)	620	2 EA 3	4	350	1/0	4/0	3/0	2,4
(59)		5						6

CONDUCTOR AND CONDUIT SCHEDULE NOTES

1. CONDUCTORS SHOWN ARE SHOWN FOR EACH CONDUIT WITH MODIFICATIONS AS NOTED IN NOTE 5. ALL CONDUCTORS SHOWN ARE THWN UNLESS OTHERWISE NOTED.
2. PROVIDE EQUIPMENT GROUND CONDUCTORS PER TABLE 250–122 WHEN CIRCUIT BREAKERS ARE SIZED GREATER THAN AMPERE RATING SHOWN IN TABLE.
3. PROVIDE #10 NEUTRALS FOR MULTIWIRE BRANCH CIRCUITS SERVING COMPUTERS.
4. GROUND (G) CONDUCTOR MAY BE DELETED ON SERVICE ENTRANCE CONDUCTORS.
5. WHEN SYMBOL SUBSCRIPT INDICATES "IG", INCLUDE "IG" OR INSULATED GROUND CONDUCTOR SCHEDULED ALONG WITH GROUND OR EQUIPMENT GROUND CONDUCTOR. WHEN SYMBOL SUBSCRIPT INDICATES "SE", SUBSTITUTE "SE" CONDUCTOR FOR "G" CONDUCTOR SHOWN WHICH IS SIZED FOR THE GROUNDING OF THE SECONDARY OF THE SEPARATELY DERIVED SYSTEMS.
6. RACEWAY ONLY. CONDUCTORS PROVIDED BY UTILITY.



1 ONE–LINE DIAGRAM
NO SCALE

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08

LICENSED PROFESSIONAL ENGINEER
No. 185978
PETER E. JOHANSEN
STATE OF UTAH

TITLE: ONE LINE DIAGRAM
DATE: 01/02/08
DRAWN BY: STS/ARA
PROJECT NO.: DFC 0713

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET: E6.1

EQUIPMENT SCHEDULE

MARK	QTY	ITEM DESCRIPTION	LOAD DATA							WIRE AND CONDUIT SIZE	OVERCURRENT PROTECTION			DISCONNECT		
			HP	kW	MCA	FLA	VOLT	PH	Hz		FURN BY	DEVICE	LOCATION	FURN BY	DEVICE	LOCATION
CU-1	1	CONDENSING UNIT			24		120	1	60	CC#4	E	30/1 CB	PANEL	E	30/2 FRN 25	ADJ TO UNIT
AIR CMP	1	AIR COMPRESSOR	7.5			40	240	1	60	CC#11	E	60/2 CB	PANEL	E	60/2 FRN 50	ADJ TO UNIT
EC-1	1	EVAP COOLER	1				240	1	60	CC #2	E	20/2 CB	PANEL	E	30/2 FRN 15	ADJ TO UNIT
EC-1	1	EVAP COOLER PUMP	1				115	1	60	CC #1	E	20/1 CB	PANEL	E	SWITCH	ADJ TO UNIT
EC-2	1	EVAP COOLER	1				240	1	60	CC #2	E	20/2 CB	PANEL	E	30/2 FRN 15	ADJ TO UNIT
EC-2	1	EVAP COOLER PUMP	1				115	1	60	CC #1	E	20/1 CB	PANEL	E	SWITCH	ADJ TO UNIT
EF-1	2	EXHAUST FAN		.127			115	1	60	CC #1	E	20/1 CB	PANEL	E	THRML SWITCH	ADJ TO UNIT
EF-2	1	EXHAUST FAN		.08			115	1	60	CC #1	E	20/1 CB	PANEL	E	THRML SWITCH	ADJ TO UNIT
EF-3	1	EXHAUST FAN		.127			115	1	60	CC #1	E	20/1 CB	PANEL	E	THRML SWITCH	ADJ TO UNIT
EF-4	1	EXHAUST FAN	1				240	1	60	CC#2	E	20/2 CB	PANEL	E	30/2 FRN 15	ADJ TO UNIT
EF-5	1	EXHAUST FAN	1/2				115	1	60	CC #1	E	20/1 CB	PANEL	E	30/1 FRN 15	ADJ TO UNIT
F-1	1	FURNACE				12	120	1	60	CC#11	E	20/1 CB	PANEL	E	THRML SWITCH	ADJ TO UNIT
UH-1,2,3,4	1	UNIT HEATER	1/3				115	1	60	CC #1	E	20/1 CB	PANEL	E	THRML SWITCH	ADJ TO UNIT

CONTINUED ON SHEET E6.3

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08

LICENSED PROFESSIONAL ENGINEER
No. 185978
PETER E. JOHANSEN
STATE OF UTAH

TITLE: EQUIPMENT SCHEDULE
DATE: 01/02/08
DRAWN BY: STS/ARA
PROJECT NO.: DFC 0713

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET:
E6.2

EQUIPMENT SCHEDULE

STARTER DATA														NOTES	MARK
FURN BY	DEVICE	LOCATION	SIZE	SPEED	CTRL VOLT	SELECTOR SWITCH	PUSH BUTTON	PILOT LAMP	NORMALLY OPEN CONTACTS	NORMALLY CLOSED CONTACTS	PHASE FAILURE RELAY	SCHEMATIC REFERENCE	REMOTE CTRL		
Q															CU-1
E	FVNR	ADJ TO UNIT	0	1	*	HOA		R	2	2	YES		**		AIR CMP
Q															EC-1
Q															EC-1
E	FVNR	ADJ TO UNIT	0	1	*	HOA		R	2	2	YES		**		EC-2
Q															EC-2
Q															EF-1
Q															EF-2
Q															EF-3
E	FVNR	ADJ TO UNIT	0	1	*	HOA		R	2	2	YES		**		EF-4
E	FVNR	ADJ TO UNIT	0	1	*	HOA		R	2	2	YES		**		EF-5
Q															F-1
Q															UH-1,2,3,4

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08

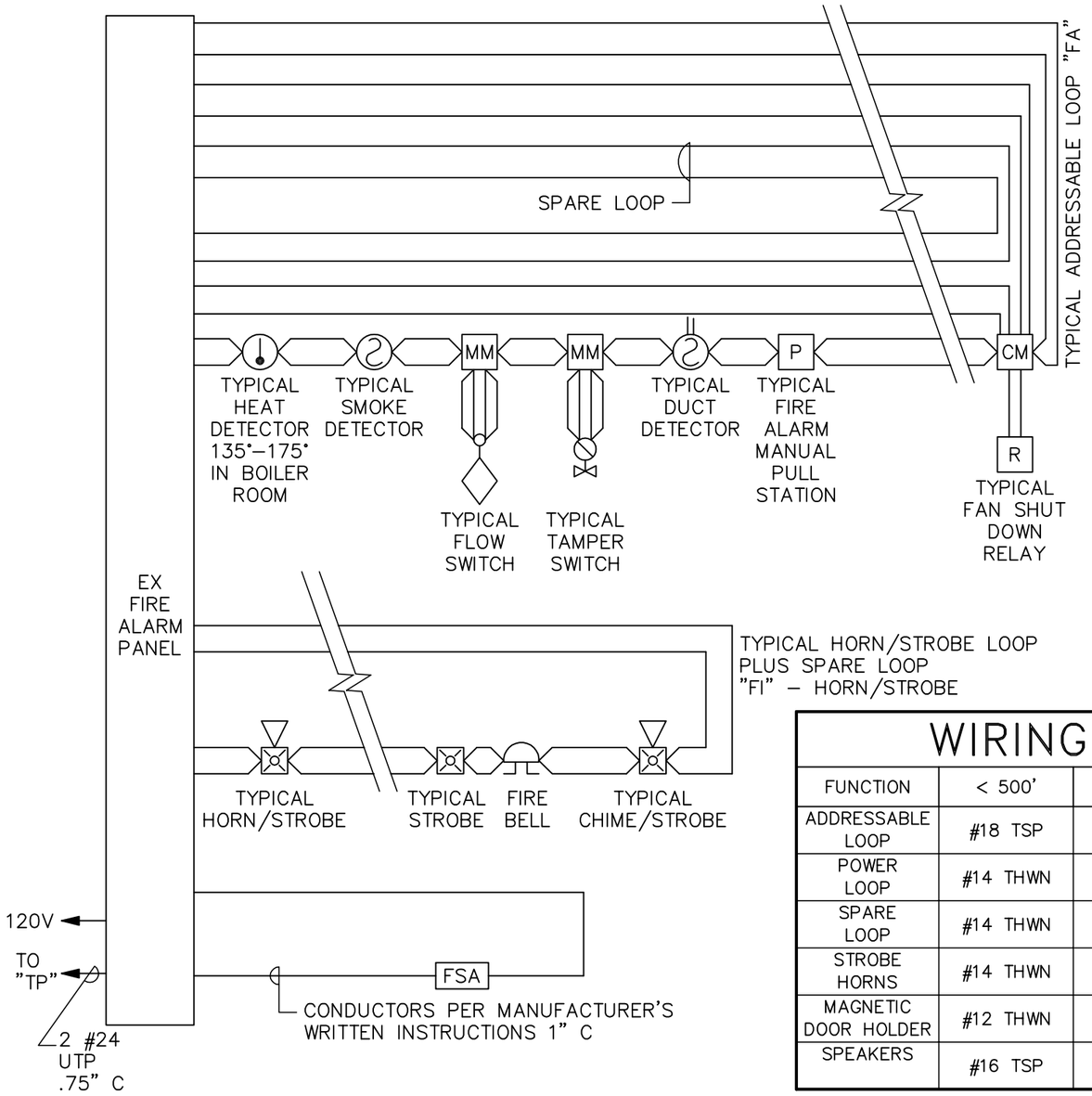
LICENSED PROFESSIONAL ENGINEER
No. 185978
PETER E. JOHANSEN
STATE OF UTAH

TITLE: EQUIPMENT SCHEDULE
DATE: 01/02/08
DRAWN BY: STS/ARA
PROJECT NO.: DFC 0713

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR
ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET:
E6.3



1 FIRE ALARM RISER

NO SCALE

WIRING SCHEDULE

FUNCTION	< 500'	< 1000'	1000'–3000'	> 3000'
ADDRESSABLE LOOP	#18 TSP	#18 TSP	#16 TSP	#14 TSP
POWER LOOP	#14 THWN	#14 THWN	#12 THWN	#10 THWN
SPARE LOOP	#14 THWN	#14 THWN	#12 THWN	#10 THWN
STROBE HORNS	#14 THWN	#14 THWN	#12 THWN	#10 THWN
MAGNETIC DOOR HOLDER	#12 THWN	#10 THWN		
SPEAKERS	#16 TSP	#16 TSP	#14 TSP	#14 TSP

NOTIFICATION SCHEDULE

SYMBOL	STROBE SIZE	COVERAGE	AVERAGE CURRENT	MAXIMUM PER CIRCUIT ALONE
15	15 CD	20'x20'	.085A	17
30	30 CD	30'x30'	.135A	11
75	75 CD	40'x40'	.200A	7
110	110 CD	50'x50'	.225A	6

GENERAL NOTES

1. PLANS ARE BASED UPON 99 MONITOR AND CONTROL DEVICES PER ADDRESSABLE LOOP. OTHER CONFIGURATIONS ARE ACCEPTABLE SUBJECT TO CONTRACTOR ALLOWING FOR INCREASED WIRING REQUIREMENTS AND SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION. MAXIMUM INITIAL DEVICES PER LOOP SHALL NOT EXCEED 75% MAXIMUM ALLOWABLE.
2. PLANS ARE BASED UPON THE WIRING SCHEDULE SHOWN. WHERE MANUFACTURER'S REQUIREMENTS EXCEED REQUIREMENTS SHOWN, INCLUDE ADDITIONAL ASSOCIATED COSTS AND SUBMITTAL DRAWINGS INDICATING NEW WIRING CONFIGURATION.
3. PLANS ARE BASED UPON 2 AMPS AT 24 VDC, NOT TO EXCEED 75% (1.50 AMPS AVAILABLE), POWER SUPPLY CAPACITY PER NOTIFICATION CIRCUIT. NOTIFICATION DEVICE LOADS ARE BASED UPON NOTIFICATION DEVICE SCHEDULE SHOWN. INCLUDE ADDITIONAL ASSOCIATED COSTS FOR INCREASED WIRING AND POWER SUPPLY CAPACITY IF LOADS OF ACTUAL DEVICES PROVIDED EXCEED CIRCUIT CAPACITY, OR IF LOAD OUTPUT OF ACTUAL POWER SUPPLIES PROVIDED IS SIZED DIFFERENTLY. PROVIDE SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION.
4. FLOW AND TAMPER CONFIGURATION BASED UPON FIRE SPRINKLER DESIGN CONCEPT. FIELD VERIFY ACTUAL REQUIREMENTS. INCLUDE ANY ADDITIONAL MONITOR MODULES REQUIRED BY ACTUAL DESIGN REQUIREMENTS.
5. ALL OUTPUT DEVICES ARE DESIGNED ON SYSTEMS WITH 2 AMP POWER SUPPLY.
6. HORN/STROBE BASED ON 120 MILLIAMPS, DOOR HOLDERS BASED ON 70 MILLIAMPS.
7. BATTERY CAPACITY TO BE ADEQUATE TO OPERATE 15 MINUTES AFTER 60 HOURS PLUS 25% SPARE CAPACITY.
8. RUN SPARE LOOPS IN SAME CONDUIT.

   PROVIDE MANUAL PULL STATIONS IN BOILER ROOMS AND KITCHENS.
9. PROVIDE ONE YEAR OFF SITE MONITORING INCLUDING ALL INTERFACE DEVICES AND MONITORING CHARGES. COORDINATE WITH BUILDING OWNER'S OFF SITE MONITORING COMPANY.
10. LOCATE SMOKE DETECTORS MINIMUM 3' FROM AIR SUPPLY LOUVERS.
11. PROVIDE SYNCHRONIZED STROBES THROUGHOUT FACILITY. PROVIDE SYNCHRONIZATION MODULES PER MANUFACTURER'S REQUIREMENTS. INCLUDE ADDITIONAL WIRING, IF REQUIRED.
12. INSTALL FIRE ALARM IN .75" CONDUIT.

ISSUE / REVISIONS:
CD REVIEW 11/2/07
DFCM REVIEW 11/30/07
CDD 01/02/08

LICENSED PROFESSIONAL ENGINEER
No. 185978
PETER E. JOHANSEN
STATE OF UTAH

TITLE: FIRE ALARM SCHEMATIC
DATE: 01/02/08
DRAWN BY: STS/ARA
PROJECT NO.: DFC 0713

PROJECT:
STATE OF UTAH
DIVISION OF PARKS AND RECREATION
SAND HOLLOW STATE PARK
MAINTENANCE SHED
DFCM PROJECT NO. 07025510

JAMES T. DRESSLAR ARCHITECT, L.L.C.
387 PARK LANE
MOAB, UTAH 84532
435.259.1155 PHONE / FAX

SHEET: E6.4

File Name: P:\2007\20070547\1Drawings\Sheet\47E64.dwg Last Plotted: 2007/12/27 @ 10:50 AM By: sts